Nortel Communication Server 1000

DECT Messenger Installation and Commissioning — Book 1

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New in this release

The following sections detail what's new in *DECT Messenger Installation and Commissioning* (NN43120-301) for Release 7.0:

- "Features" (page 9)
- "Other changes" (page 9)

Features

There have been no updates to the feature descriptions in this document.

Other changes

For a detailed history of past releases of this document, see the following table.

Table 1
Revision history

June 2010	Standard 02.01. This document is up-issued to support Nortel Communication Server 1000 Release 7.0.
November 2009	Standard 01.07. This document is up-issued to support Nortel Communication Server 1000 Release 5.5, and contains clarifications relating to add-on modules.
October 2008	Standard 01.06. This document is up-issued to support Nortel Communication Server 1000 Release 5.5, and contains changes relating to updates to the Messenger software.
September 2008	Standard 01.02. This document is up-issued to support Nortel Communication Server 1000 Release 5.5, and contains changes relating to updates to the Messenger software.
May 2008	Standard 01.01. This document is issued to support Nortel Communication Server 1000 Release 5.5. Some of the information contained in this new document was previously contained in DECT Fundamentals (NN43120-114).

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General - Install PC

This chapter provides information on “Installing DECT Messenger components” (page 12).

Before you begin

Before installing the Nortel DECT Messenger components, verify that your PC is ready by performing the following:

Procedure 1
Verifying that your PC is ready

Step	Action
1	Install and configure the operating system on the PC. Nortel recommends Windows XP or Windows 2003 Server. Windows 2000 Professional and Windows 2000 Server are also supported. ***Note:*** Nortel recommends that you use the computer name Messenger. If you use any other name, you must make corresponding configuration changes in Apache Web Server configuration.
2	Configure TCP/IP and verify the network connection with the PBX.
3	Verify the international settings while configuring your Windows operating system. Verify the Regional and Language Options in the Control Panel. To ensure that the system starts after a power failure, enable auto-logon. With auto-logon enabled, the task manager restarts all processes automatically.
4	Install the latest service pack on the Windows operating system. ***Note:*** Perform the Windows update after installation. You must perform the Windows update regularly to ensure that the latest available patches are installed.

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ATTENTION
Nortel recommends that you disable Windows Update to prevent system reboots while applying updates. Do not install Internet Explorer 7.

5 Proceed with the installation steps discussed in Procedure 2 "Install PC components" (page 12).

--End--

Installing DECT Messenger components

Procedure 2
Install PC components

Step	Action
1	

a Install **Adobe Acrobat Reader**.

Refer to "Install PC - Step 1a - Adobe Acrobat Reader" (page 17) for more information on how to install this product.

b Install the latest Microsoft Data Access Components (MDAC).

Refer to "Install PC - Step 1b - Microsoft Data Access Components (MDAC)" (page 23) for more information.

c Install **WinZip** (optional).

Refer to "Install PC - Step 1c - WinZip" (page 29) for more information.

It is useful to install compression software on the system, for example to compress log files for problem analysis.

For your convenience, WinZip is shipped with DECT Messenger.

Note: You are free to choose another compression tool, such as WinRar. Windows XP also features support for Zip-compression.

d Install the **TCP Monitor**.

Refer to "Install PC - Step 1d - TCP Monitor" (page 37) for more information.

Note: This step is optional, but Nortel recommends you install the TCP Monitor for troubleshooting if you are using the eDMSAPI module.

e Install the **License Manager**.

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This step installs internal components needed by eDMSAPI and eCSTA, and also the License Manager and USB dongle drivers.

You need a valid licence key for your installation.

Refer to “Install PC - Step 1e - License Manager” (page 39) for more information.

f Install the **Database Engine**.

Refer to “Install PC - Step 1f - Database Engine” (page 51) for more information.

- Access
  If you plan to use Access, refer to “Install PC - Step 1b - Microsoft Data Access Components (MDAC)” (page 23).
- SQL Server 2005 Express
  If you plan to use SQL Server 2005 Express, refer to “Microsoft SQL Server 2005 Express” (page 64). Perform the steps required to install the prerequisites and SQL Server 2005 Express engine and restore the database.
- SQL Server 2000 Desktop Engine
  If you plan to use SQL Server 2000 Desktop Engine, refer to “Microsoft SQL Server 2000 Desktop Engine” (page 59). Perform the steps required to install the prerequisites and SQL Server 2000 Desktop Engine and restore the database.
- SQL Server 2000 or 2005
  If you plan to use SQL Server 2000 or 2005, refer to “Microsoft SQL Server 2000 and Microsoft SQL Server 2005” (page 52). Perform the steps required to restore the database.

2 Install **Nortel DECT Messenger** and the **DECT Messenger Templates**.

- DECT Messenger
  Refer to “Install PC - Step 2 - Nortel DECT Messenger” (page 95) for more information.
- DECT Messenger Templates
  The configuration process of DECT Messenger is complex. To assist you in the configuration of DECT Messenger, a number of templates are available representing some typical configuration examples. These Templates provide a Messenger_CFG.MDB and the appropriate shortcuts. Nortel recommends you install the DECT Messenger Templates so you can start based upon a example configuration database.

3 Install **National Instruments** software.

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Refer to “Install PC - Step 3 - National Instruments” (page 111) for more information on how to configure the components FieldPoint Explorer and DataSocket OPC Server.

Both steps are required if you plan to use eIO module.

4 Install the **Web Server**.

Refer to “Install PC - Step 4 - Web Server” (page 151) for more information on how to configure the ODBC based access used within the eWEB module. The same document describes the steps involving installing and configuring Apache and PHP.

These steps are required if you plan to use eWEB module or Web Administrator module.

5 Install the **SMTP Server**.

Refer to “Install PC - Step 5 - eSMTP_Server” (page 185) for more information on how to configure the SMTP Server.

This step is required if you plan to use the eSMTP_SERVER module.

6 Install the **configuration tool**.

Choose one of the following:

- Refer to “Install PC - Step 6 - eCONFIG” (page 199) for more information on how to install the eCONFIG module. Nortel recommends that you use the eCONFIG module as a central configuration tool.
- If you prefer manual configuration through the eGRID module, you must locate and manually modify the appropriate shortcuts that reside in **C:\SOPHO Messenger@Net\Lnk**. You can use the eTM Task Manager module to launch the configured modules at startup. If you do not use the eTM module, move all shortcuts to the **Startup** group, so that the application launches when the PC reboots.

Refer to the relevant documents for more information on configuration issues. For further documentation of table values, refer to the Readme.html index of documentation. If eWEB is activated, you can also consult the online documentation through the eWEB interface.

7 Install **Dialogic SR6.1.63** and **VBVoice 4.4**.

Refer to “Install PC - Step 7 - Dialogic” (page 225) for more information on how to install the Dialogic drivers and VBVoice-related runtime engine.

You must install Dialogic SR6.1.63 and VBVoice 4.4 when you plan to use the VBVoice module.

8 Install **Updates**.

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Due to ongoing development on the DECT Messenger product suite, enhancements of software modules are distributed on the CD-ROM image. These enhancements can also introduce new functionality. Nortel recommends that you install any updates found in the directory **\08 - Updates** .

--End--

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Install PC - Step 1a - Adobe Acrobat Reader

This chapter provides information on “Installing Adobe Acrobat Reader” (page 17).

The documentation of Nortel DECT Messenger is shipped in PDF format. To read these documents, you must install Adobe Acrobat Reader on your PC.

> ***Note:*** If you offer access to the DECT Messenger documentation through a Web Server, users must also install the reader to view these documents.

You can download the Adobe Acrobat Reader from the Internet using the link http://www.adobe.com/products/acrobat/. For your convenience, a copy of the installation program is shipped on the DECT Messenger CD-ROM. The Adobe Acrobat Reader Installation package is located in the directory \01 – Prerequisites\01.01 - Adobe Acrobat Reader\8.0\English\. Only the English version is provided; you can download versions in other languages from the Internet.

For more information about the installation procedure for the English version, see “Installing Adobe Acrobat Reader” (page 17).

Installing Adobe Acrobat Reader

Procedure 3
Installing Adobe Acrobat Reader

Step	Action
1	Double-click the file **AdbeRdr80_en_US.exe** to install Adobe Acrobat Reader 8.0. If the Open File - Security Warning window appears, click **Run**.

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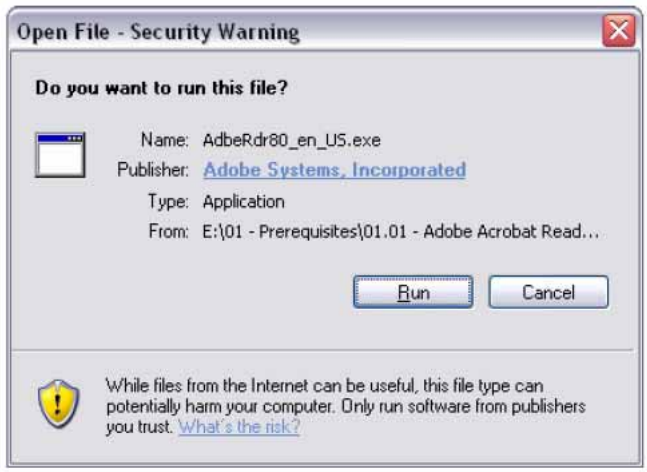
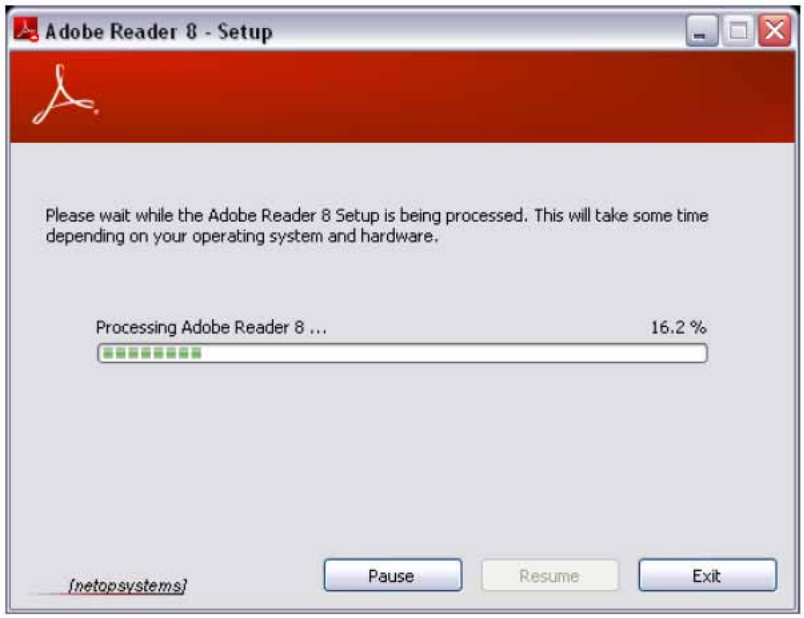

Open File - Security Warning
Do you want to run this file?
Name: AdbeRdr80_en_US.exe
Publisher: Adobe Systems, Incorporated
Type: Application
From: E:\01 - Prerequisites\01.01 - Adobe Acrobat Read...
Run
Cancel
While files from the Internet can be useful, this file type can potentially harm your computer. Only run software from publishers you trust. What's the risk?

The Setup window appears.


Adobe Reader 8 - Setup
Please wait while the Adobe Reader 8 Setup is being processed. This will take some time depending on your operating system and hardware.
Processing Adobe Reader 8 ...
16.2 %
[netopsystems]
Pause
Resume
Exit

When processing is complete, the Destination Folder page appears.

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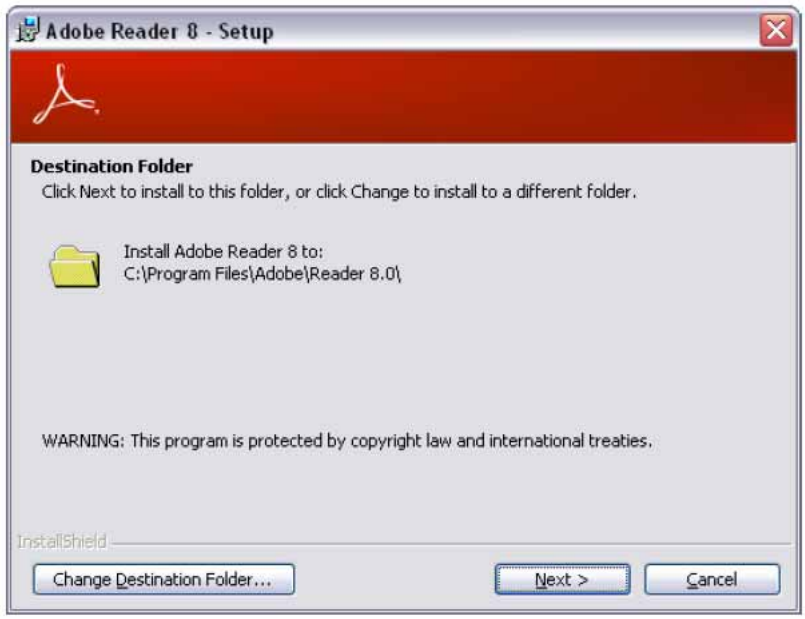
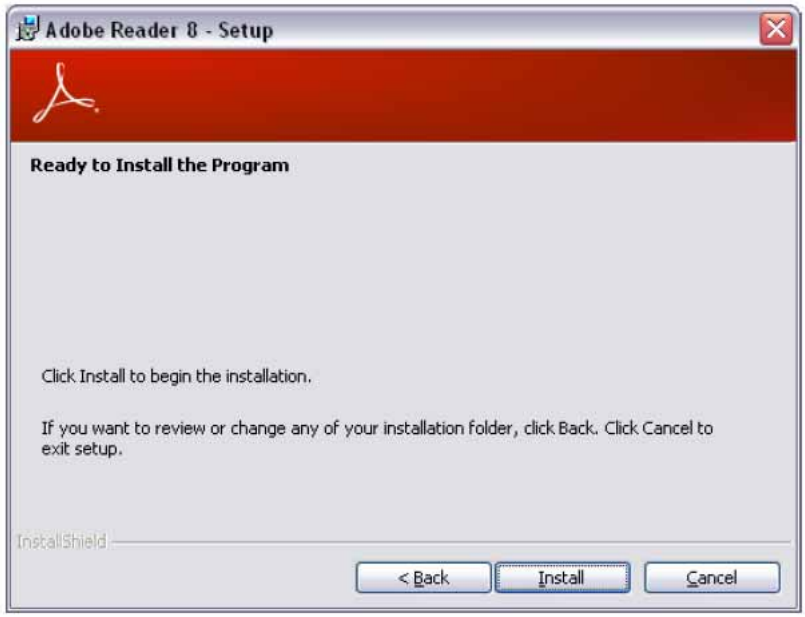

Adobe Reader 8 - Setup
Destination Folder
Click Next to install to this folder, or click Change to install to a different folder.
Install Adobe Reader 8 to:
C:\Program Files\Adobe\Reader 8.0\
WARNING: This program is protected by copyright law and international treaties.
InstallShield
Change Destination Folder...
Next >
Cancel

2 Verify the install location.

Click **Next** in the second setup window shown previously to accept the default location.

The Ready to Install the Program page appears.


Adobe Reader 8 - Setup
Ready to Install the Program
Click Install to begin the installation.
If you want to review or change any of your installation folder, click Back. Click Cancel to exit setup.
InstallShield
< Back
Install
Cancel

3 Verify that you are ready to install the software.

Click **Install** to start installation.

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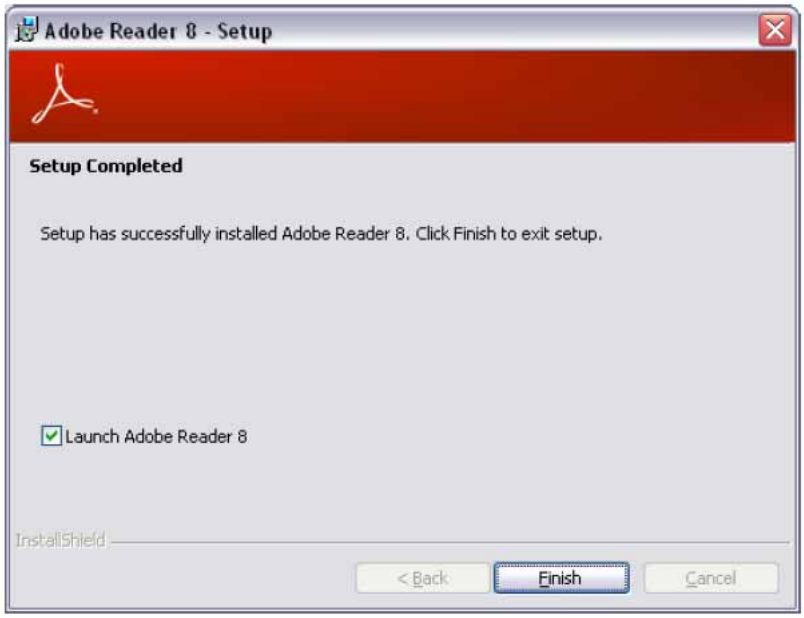
The Setup Complete page appears.



4 Acknowledge completion of the installation.

When installation is complete, click **Finish** in the window shown in the previous figure.

The License Agreement page appears.

Adobe Reader 8
License Agreement
Print
Save
Press the Accept button to agree to the License Agreement and continue.
Please select a language for the License Agreement:
English (US)
License Agreement:
ADOBE SYSTEMS INCORPORATED
ADOBE® SOFTWARE LICENSE AGREEMENT
NOTICE TO USER: PLEASE READ THIS CONTRACT CAREFULLY. BY USING, COPYING OR DISTRIBUTING ALL OR ANY PORTION OF THE ADOBE SOFTWARE ("SOFTWARE") YOU ACCEPT ALL THE TERMS AND CONDITIONS OF THIS AGREEMENT, INCLUDING, IN PARTICULAR THE LIMITATIONS ON: USE CONTAINED IN SECTION 2, TRANSFERABILITY IN SECTION 4, WARRANTY IN SECTION 7, AND LIABILITY IN SECTION 8. YOU AGREE THAT THIS AGREEMENT IS ENFORCEABLE LIKE ANY WRITTEN NEGOTIATED AGREEMENT SIGNED BY YOU. THIS AGREEMENT IS ENFORCEABLE AGAINST YOU AND ANY LEGAL ENTITY THAT OBTAINED THE SOFTWARE AND ON WHOSE BEHALF IT IS USED. IF YOU DO NOT AGREE, DO NOT USE THIS SOFTWARE.
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Accept
Decline

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5 Click **Accept** to accept the License Agreement.

--End--

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Install PC - Step 1b - Microsoft Data Access Components (MDAC)

This chapter provides information on “Installing MDAC” (page 25).

Overview

DECT Messenger makes use of underlying databases to retrieve and store the configuration of DECT Messenger and dynamic data.

On Windows operating systems, some intermediate layers are accessed. This chapter describes how to make sure these intermediate layers are present.

Note: In many cases, MDAC is already at the required level, as part of the operating system or operating system service pack. Other software installed on the DECT Messenger system can also provide MDAC related updates.

MDAC version checker

A version checking tool, developed by Microsoft, is available for you to determine the version of the MDAC layers that are present on your PC. Use this procedure to determine what MDAC is installed and what Dynamic link library (DLL) files are available.

Using the MDAC version checker

Step	Action
1	Double-click on the CC.exe file that resides on the CD-ROM located in **01 – Prerequisites > 01.03 - MDAC > 01.03.01 - MDAC Version Checker**. The Component Checker - Choose Analysis Type page appears when you launch the application.

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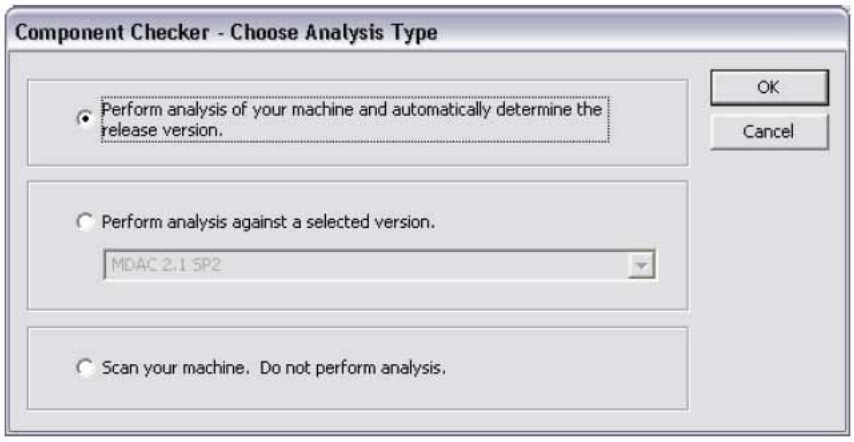
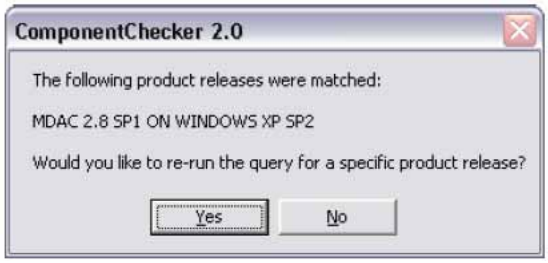

Component Checker - Choose Analysis Type
Perform analysis of your machine and automatically determine the release version.
OK
Cancel
Perform analysis against a selected version.
MDAC 2.1 SP2
Scan your machine. Do not perform analysis.

2 Click **OK**.

A message box appears stating the found product release.

For example, on a Windows XP operating system with Service Pack 2 (SP2) installed, a message similar to the message shown in the following figure appears. In the example in the following figure, MDAC 2.8 Service Pack 1 (SP1) appears to be present. On different operating systems another value can appear, for example, MDAC 2.8 SP2 on Windows 2003 Server SP1.


ComponentChecker 2.0
The following product releases were matched:
MDAC 2.8 SP1 ON WINDOWS XP SP2
Would you like to re-run the query for a specific product release?
Yes
No

3 Click **No** when the preceding figure appears.

4 Close the application.

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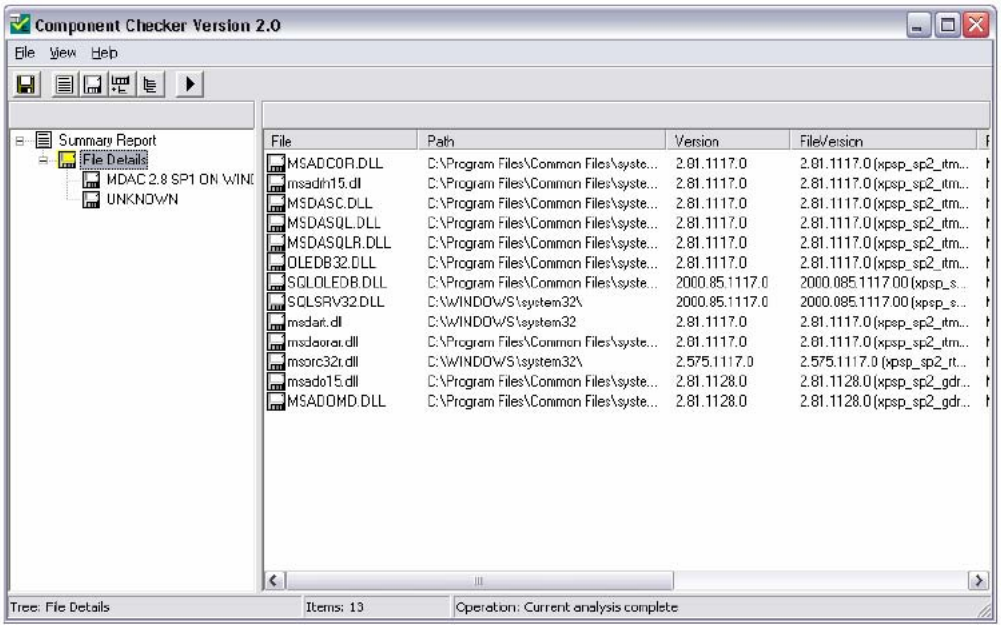
Component Checker Version 2.0
File View Help
Summary Report
File Details
MDAC 2.8 SP1 ON WIN
UNKNOWN
File
Path
Version
FileVersion
MSADCOR.DLL C:\Program Files\Common Files\syste... 2.81.1117.0 2.81.1117.0 (xpsp_sp2_itm...
msadh15.dll C:\Program Files\Common Files\syste... 2.81.1117.0 2.81.1117.0 (xpsp_sp2_itm...
MSDASC.DLL C:\Program Files\Common Files\syste... 2.81.1117.0 2.81.1117.0 (xpsp_sp2_itm...
MSDASQL.DLL C:\Program Files\Common Files\syste... 2.81.1117.0 2.81.1117.0 (xpsp_sp2_itm...
MSDASQLR.DLL C:\Program Files\Common Files\syste... 2.81.1117.0 2.81.1117.0 (xpsp_sp2_itm...
OLEDB32.DLL C:\Program Files\Common Files\syste... 2.81.1117.0 2.81.1117.0 (xpsp_sp2_itm...
SQLOLEDB.DLL C:\Program Files\Common Files\syste... 2000.85.1117.0 2000.085.1117.00 (xpsp_s...
SQLSRV32.DLL C:\WINDOWS\system32\ 2000.85.1117.0 2000.085.1117.00 (xpsp_s...
msdart.dll C:\WINDOWS\system32 2.81.1117.0 2.81.1117.0 (xpsp_sp2_itm...
msdaora.dll C:\Program Files\Common Files\syste... 2.81.1117.0 2.81.1117.0 (xpsp_sp2_itm...
msorc32r.dll C:\WINDOWS\system32\ 2.575.1117.0 2.575.1117.0 (xpsp_sp2_rt...
msado15.dll C:\Program Files\Common Files\syste... 2.81.1128.0 2.81.1128.0 (xpsp_sp2_gdr...
MSADOMD.DLL C:\Program Files\Common Files\syste... 2.81.1128.0 2.81.1128.0 (xpsp_sp2_gdr...
Tree: File Details
Items: 13
Operation: Current analysis complete

Note: In case of problems with the MDAC layer, you may be instructed to use this tool again to gather information on the MDAC level.

--End--

MDAC 2.8

Microsoft Data Access Components (MDAC) 2.8 contain core Data Access components, such as the Microsoft SQL Server™ OLE Database (DB) provider and ODBC driver.

For your convenience, a recent English version of Microsoft Data Access Components 2.8 is shipped on the CD-ROM and is located in \01 – Prerequisites\01.03 – MDAC\01.03.02 - MDAC 2.8\. If you require another language, you can download the appropriate version from the Microsoft web site.

Installing MDAC

Procedure 4
Install MDAC

Step	Action
1	Start **MDAC** installation. Double-click the **MDAC_TYP.exe** file to launch the Microsoft Data Access Components 2.8 Setup.

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If the message shown in the following figure appears, click **Cancel**. The appearance of the message in the following figure means the required database layers are already present and General Install PC - MDAC is completed. Proceed to the next chapter.

MDAC 2.8 RTM
MDAC 2.8 RTM
MDAC 2.8 RTM is incompatible with this version of Windows. All of its features are currently part of Windows.
To exit, click Cancel. For more information, click Details.
Don't display this message again
Continue
Cancel
Details

If the message shown in the previous figure does not appear, the installation of MDAC continues, and a message box with a progress indicator appears.

The End User License Agreement appears.

Microsoft Data Access Components 2.8 Setup
End User License Agreement
Please read the following license agreement. Press the PAGE DOWN key to see the rest of the agreement. You must accept this agreement to install this software.
MICROSOFT CORPORATION END-USER LICENSE AGREEMENT
Microsoft Data Access Components 2.8
IMPORTANT-READ CAREFULLY: This End-User License Agreement ("EULA") is a legal agreement between you (either an individual or a single entity) and Microsoft Corporation for the Microsoft software product identified above, which includes computer software and may include associated media, printed
I accept all of the terms of the preceding license agreement.
< Back
Next >
Cancel

2 Click **Next** .

3 Wait while intermediate windows are displayed.

A message window appears while the program checks disk space and shared resources. Wait until this step has finished (do not click **Cancel**).

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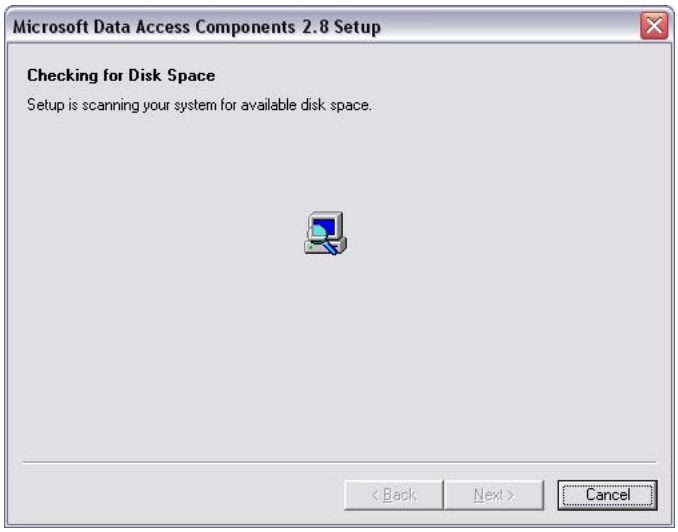
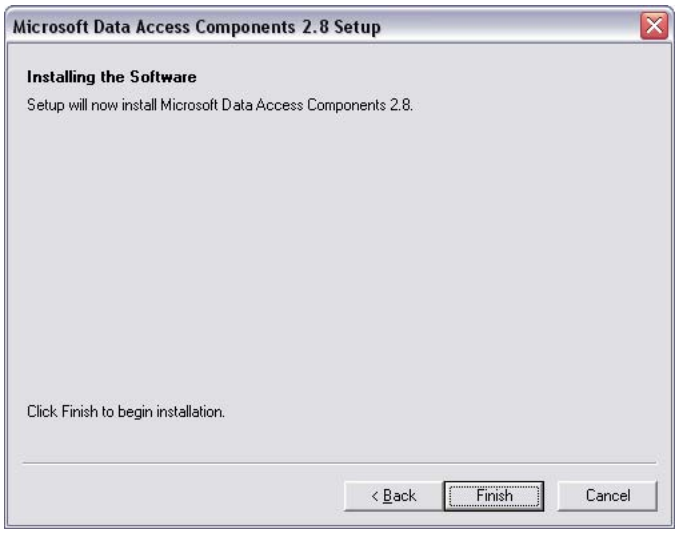

Microsoft Data Access Components 2.8 Setup
Checking for Disk Space
Setup is scanning your system for available disk space.
< Back
Next >
Cancel

An additional window is sometimes shown indicating shutdown of server components if they share resources that are updated during the installation of MDAC_TYP.exe.

4 Begin the installation.

Click **Finish** to begin the installation.



A number of windows open during installation, displaying progress indicators.

5 Restart the system.

When installation is finished, you must restart the system. Shut down any other applications you are using, to prevent data loss. When all applications are stopped, the following dialog box appears. Click **Finish**.

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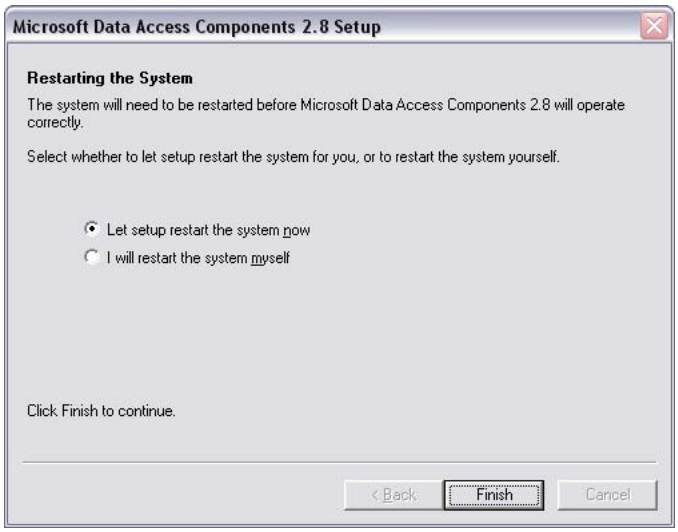
Microsoft Data Access Components 2.8 Setup
Restarting the System
The system will need to be restarted before Microsoft Data Access Components 2.8 will operate correctly.
Select whether to let setup restart the system for you, or to restart the system yourself.
Let setup restart the system now
I will restart the system myself
Click Finish to continue.
< Back
Finish
Cancel

--End--

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Install PC - Step 1c - WinZip

This chapter provides information on “Install WinZip” (page 29).

Many files are shipped in .ZIP format. Download an application to extract these files, for example WinZip, from the Internet.

For your convenience, a distribution of WinZip 11.0 evaluation version is shipped on the CD-ROM. You can find the program in the directory \01-Prerequisites\01.04 - WinZip\WinZip 11.0\.

Install WinZip

Procedure 5
Installing WinZip

Step	Action
1	Start **WinZip** installation. • Double-click **winzip110.exe**. • Click **Setup**.
2	Select the location in which to install the software. Accept the default location and click **OK**.

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WinZip Setup
Setup will install WinZip into the following folder, which it will create if necessary.
If you want to install WinZip in a different folder and/or drive, type the name of the folder below:
Install to:
C:\Program Files\WinZip
OK
Cancel

3 Continue with the installation.

When the following window appears, click **Continue**.

WinZip Setup - Google Tools
You can also choose to install these optional and free Google Tools from Google, Inc.
Check the items you would like to install, then click Continue.
Google Toolbar for Internet Explorer
Terms of Use
Privacy Policy
* Search the Web with Google from any site.
* Eliminate annoying pop-up ads.
Google Desktop Search
Terms of Use
Privacy Policy
* Find your e-mail, files, chats, and web history instantly.
* View web pages you've seen, even if you're not online.
Google
vacation
Found: 42 emails 16 files 1 chat 25 web history
By installing any of these Google Tools, you agree to abide by the applicable Google's Terms of Use and Privacy Policy. You can remove these Google Tools at any time.
Continue

4 When the following window appears, click **Next**.

WinZip Setup
Thank you for installing WinZip!
WinZip features include:
* Quick and easy zip and unzip
* Optional Wizard interface
* E-mail support, including Zip and E-Mail from Explorer
* Digital image support
* 128-bit and 256-bit AES encryption
* Automation of repetitive zipping tasks (Pro-version only)
Press F1 on your keyboard at any time while running WinZip for context sensitive help and complete documentation.
Click on "Next" to continue.
Help
< Back
Next >
Close

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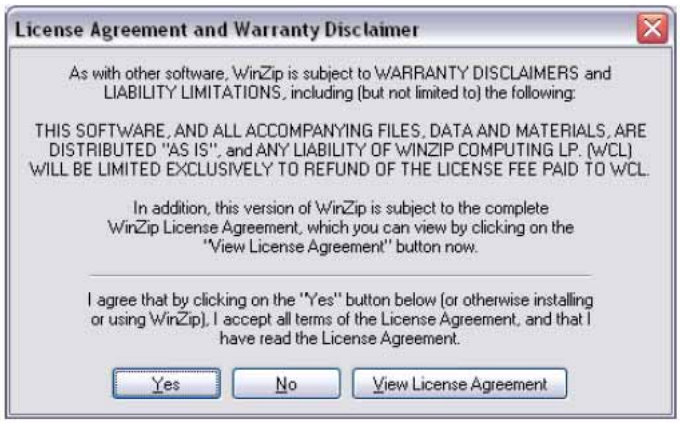
5 Accept the **License Agreement**.

Review the License Agreement. When you are ready, click **Yes** to accept the License Agreement and warranty disclaimer.


License Agreement and Warranty Disclaimer
As with other software, WinZip is subject to WARRANTY DISCLAIMERS and LIABILITY LIMITATIONS, including (but not limited to) the following:
THIS SOFTWARE, AND ALL ACCOMPANYING FILES, DATA AND MATERIALS, ARE DISTRIBUTED "AS IS", and ANY LIABILITY OF WINZIP COMPUTING LP. (WCL) WILL BE LIMITED EXCLUSIVELY TO REFUND OF THE LICENSE FEE PAID TO WCL.
In addition, this version of WinZip is subject to the complete WinZip License Agreement, which you can view by clicking on the "View License Agreement" button now.
I agree that by clicking on the "Yes" button below (or otherwise installing or using WinZip), I accept all terms of the License Agreement, and that I have read the License Agreement.
Yes
No
View License Agreement

6 Proceed with the installation.

Review the information provided, and click **Next** to continue.

WinZip Setup
WinZip Quick Start
For helpful information on installing and using WinZip, print a copy of the "WinZip Quick Start Guide." Click "Print Quick Start".
To see the Guide without printing it, click "View Quick Start".
You can also view or print the Quick Start Guide later by choosing Quick Start from the WinZip Help Contents.
Click Next when you are ready to continue.
Print Quick Start
View Quick Start
Help
< Back
Next >
Close

7 Select the interface to use.

Select the **Start with WinZip Classic** option and click **Next** to continue.

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WinZip Setup
Choose "Classic" or "Wizard", then click "Next"
You can start with the "Classic" or "Wizard" interface. It is easy to switch between the two interfaces, and you can always change the default later.
WinZip Classic is the more powerful of the two interfaces and is recommended if you are comfortable with Windows and Zip files.
Start with WinZip Classic
The WinZip Wizard automates the most common tasks involving Zip files and is most useful for users who are new to Windows and Zip files.
Start with the WinZip Wizard
Help
< Back
Next >
Close

8 Choose a setup option.

Select the **Custom setup** option (recommended), and click **Next** to continue.

WinZip Setup
Click "Next" to continue.
Express setup (recommended)
Custom setup (for advanced users)
Express Setup associates WinZip with archives, creates a program group, and puts WinZip icons on the desktop and Start menu.
Help
< Back
Next >
Close

9 Set **Custom setup** options.

> ***Note:*** If you choose **Express setup**, skip this step and continue to step 10.

If you wish, clear unneeded configuration settings, as shown in the following illustration.

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WinZip Setup
Explorer Configuration
Recommended setting for first-time users: check all boxes. Press F1 for details.
Associate WinZip with archives
Explorer shell extension
Display WinZip context menu items in a submenu
Display icons on context menus
Include WinZip Quick Pick in the taskbar tray
Include WinZip in Start menu
Include WinZip on desktop
Help
< Back
Next >
Close

10 Select the **Do not check for updates** option and click **Next**.

WinZip Setup
Configure Check for Updates
For first-time users, we recommend "Check automatically, every week." Press F1 or click Help for more information.
Check automatically, every
week
Ask before checking, once a week
Do not check for updates
Help
< Back
Next >
Close

11 When the following window appears, click **OK**.

WinZip
You have chosen to disable WinZip's "Check for Updates" feature, which means that you may not be notified of new and possibly significant WinZip updates.
To enable this feature after installation, choose Configuration from the Options menu, open the Miscellaneous tab, and choose the desired option from the Check for Updates group.
OK

12 Choose whether you want a program group and icons.

- If you so choose, clear the option to create a program group and icons.
- Click **Next** to continue.

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WinZip Setup
Other Options
Some WinZip features require optional external programs. You can configure these program locations now by clicking on Program Locations, or wait until you need them and choose "Configuration" from the "Options" menu and then click the "Program Locations" tab.
Program Locations...
Create WinZip program group and icons
Create icon for WinZip Self-Extractor Personal Edition
Help
< Back
Next >
Close

13 Acknowledge completion of the installation.

Click **Finish** to complete the install procedure.

WinZip Setup
Thank you for installing this evaluation version.
New WinZip Users:
For a quick introduction to WinZip choose "Brief Tutorial" from the "Help" menu at any time or press F1 now.
Help
< Back
Finish
Close

14 Disable **Tip of the Day** (optional).

The program is launched once installation is complete. If you wish, disable the function that shows Tip of the Day at each startup.

Choose **Never show tips at startup** from the drop-down list, as shown in the following illustration, and click **Close**.

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WinZip Tip of the Day
Did you know...
If you are new to Zip files, you can use the Wizard interface to walk you through the process of zipping and unzipping or installing software from Zip files, MIME files, and other encoded files.
Choose "Wizard" from the WinZip File menu to activate the Wizard.
Never show tips at startup
Next Tip
Close

--End--

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Install PC - Step 1d - TCP Monitor

This chapter provides information on “Copying TCP Monitor to the hard disk” (page 37).

Install the TCP Monitor program if you wish to troubleshoot the eDMSAPI module. Installation of this program is optional, but highly recommended.

Copying TCP Monitor to the hard disk

Note: If hard disk space is limited, you can run the program from the CD.

Copy the program from the CD-ROM image directory \01 - Prerequisites\01.05 - TCP Monitor\ to the hard disk of the DECT Messenger PC. See Figure 1 "Source directory" (page 38). TCP Monitor is usually installed in C:\Program Files\TCP Monitor, although you can install the software in any directory you choose. See Figure 2 "Destination directory" (page 38).

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Figure 1
Source directory

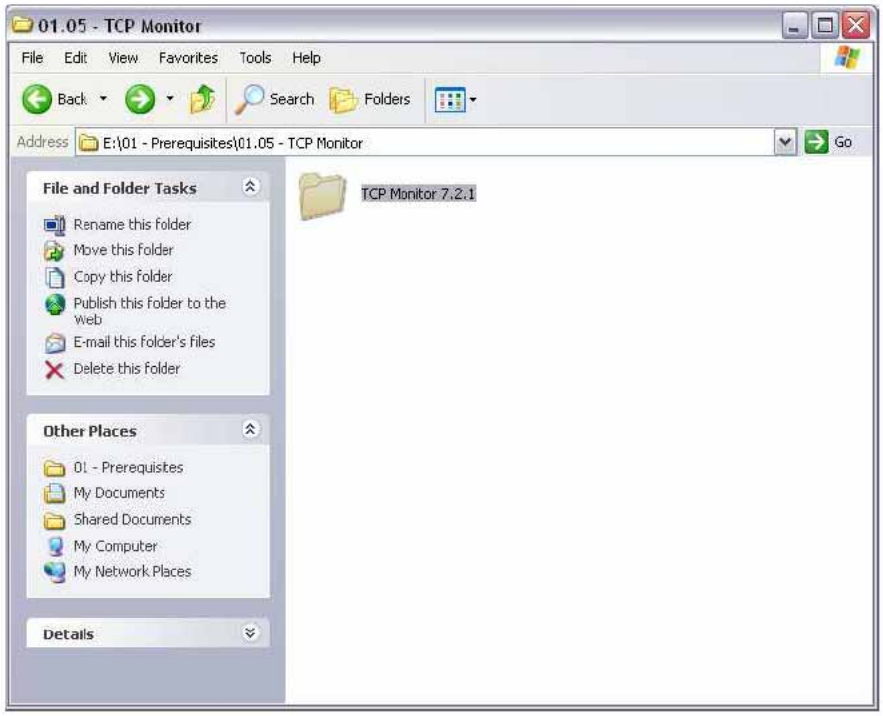
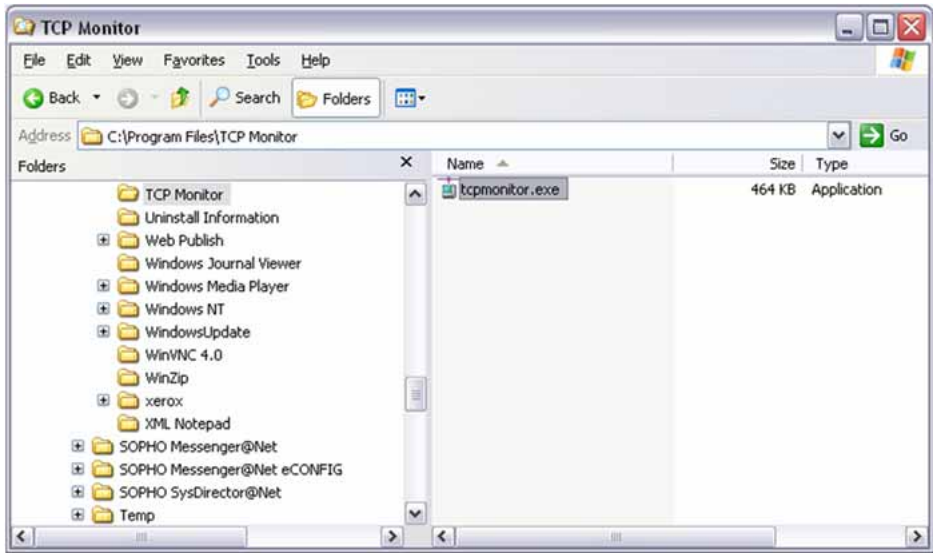


Figure 2
Destination directory



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Install PC - Step 1e - License Manager

This chapter describes the installation of the SOPHO CTI.

Use the following procedures to install SOPHO CTI.

- Procedure 6 “Checking for previously installed versions of SOPHO CTI” (page 39)
- Procedure 7 “Uninstalling a previously installed version of SOPHO CTI” (page 40)
- Procedure 8 “Installing SOPHO CTI” (page 43)
- Procedure 9 “Finalizing the installation of SOPHO CTI” (page 47)

Before you install SOPHO CTI, check for previously installed versions.

Procedure 6
Checking for previously installed versions of SOPHO CTI

Step	Action
1	Double-click the file **SOPHOCTI4.0.1Runtime.exe** located on the CD-ROM in the directory **\01 – Prerequisites\01.06 - License Manager\01.06.01 SOPHO CTI 4.0.1 Runtime**. If a previous version of SOPHO CTI exists, a message box appears that states: An incompatible version of the SOPHO CTI was detected. Uninstall the incompatible SOPHO CTI version first. Continue to the next procedure. If a message box does not open, skip the next procedure and proceed to Procedure 8 “Installing SOPHO CTI” (page 43).

--End--

To uninstall a previous version of SOPHO CTI, follow the steps in the next procedure.

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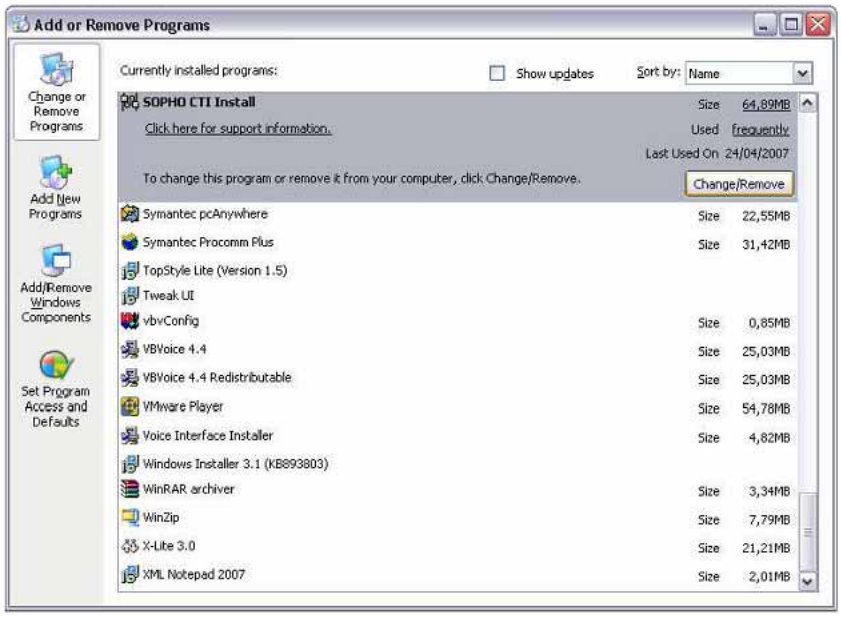
Procedure 7
Uninstalling a previously installed version of SOPHO CTI

Step	Action
1	Click **OK** in the message box that states: An incompatible version of the SOPHO CTI was detected. Uninstall the incompatible SOPHO CTI version first.
2	Navigate to **Start > Settings > Control Panel**.
3	Double-click the **Add/Remove Programs** icon.
4	Search for the previously installed version of **SOPHO CTI**. The following example shows screens and names that are the same or different from the version previously installed on your system.



5	Click **Change/Remove**. The following window appears.

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Setup SOPHO CTI - 4.0.0 uninstall
Welcome to the SOPHO CTI uninstall program
This program can be used to uninstall one or more SOPHO CTI components from your system.
It is strongly recommended that you exit all Windows programs before running this uninstallation program.
< Back
Next >
Cancel

6 Click **Next**.

The following window appears.

7 Select **Custom Uninstall**.

The following window appears.

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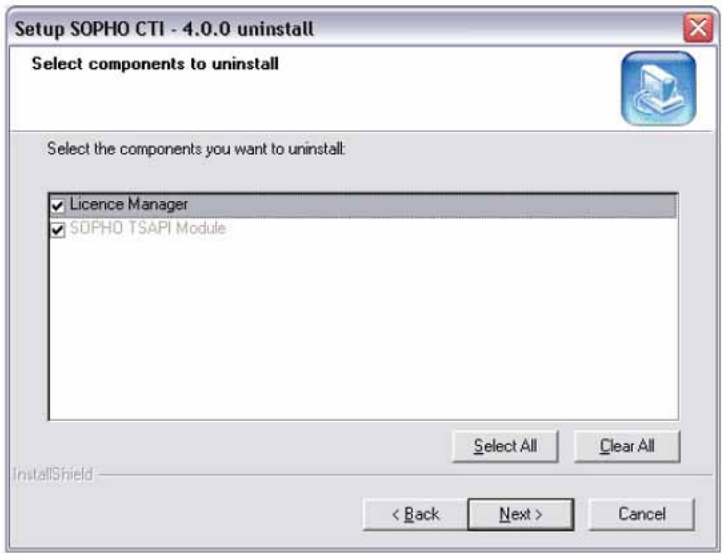
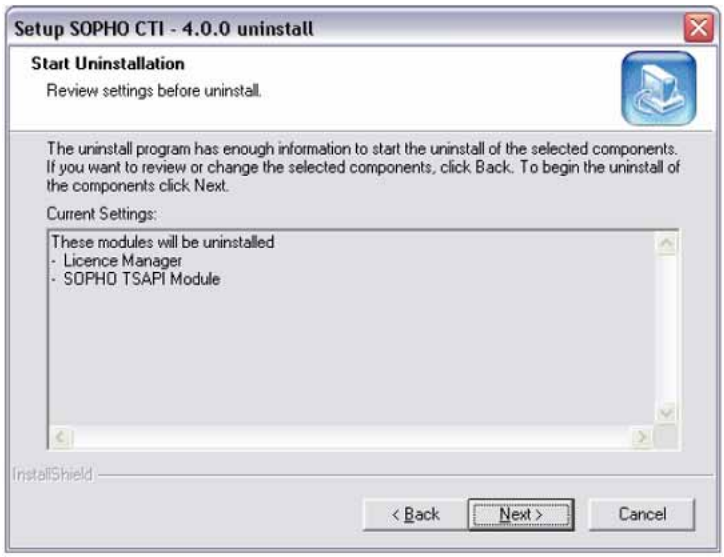


8 Select both **SOPHO CTI** and **License Manager**.

9 Click **Next**.

The following window appears.


Setup SOPHO CTI - 4.0.0 uninstall
Start Uninstallation
Review settings before uninstall.
The uninstall program has enough information to start the uninstall of the selected components. If you want to review or change the selected components, click Back. To begin the uninstall of the components click Next.
Current Settings:
These modules will be uninstalled
- Licence Manager
- SOPHO TSAPI Module
InstallShield
< Back
Next >
Cancel

10 Read and follow the instructions and click **Next** to continue.

If other messages appear, click **Yes** to continue with uninstall.

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Three message appears:

- Do you want to delete SOPHO TSAPI Module DATA-directory C:\Philips\Data Files\STSAPI Module and all contents?
- Do you want to delete License Manager DATA-directory C:\Philips\Data Files\License-Manager and all contents?
- Do you want to delete SOPHO CTI DATA-directory C:\Philips\Data Files\SOPHO-CTI with ALL its contents?

11 Click **Yes** in each of the message windows.

The following window appears.

Setup SOPHO CTI - 4.0.0 uninstall
Uninstall of the SOPHO CTI with all its modules is complete.
Uninstall of the SOPHO CTI with all its modules is complete.
< Back
Finish
Cancel

Previously installed versions of SOPHO CTI are uninstalled. Continue to the next procedure.

--End--

Procedure 8
Installing SOPHO CTI

Step	Action
1	Double-click the file **SOPHOCTI4.0.1Runtime.exe** located on the CD-ROM in the directory **\01 – Prerequisites\01.06 - License Manager\01.06.01 SOPHO CTI 4.0.1 Runtime**.
2	In the **Welcome to the InstallShield for SOPHO CTI Runtime** window, click **Next**.

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SOPHO CTI Runtime - InstallShield Wizard
Welcome to the InstallShield Wizard for SOPHO CTI Runtime
The InstallShield Wizard(TM) will help install SOPHO CTI Runtime on your computer. To continue, click Next.
< Back
Next >
Cancel

3 In the next **Welcome to the InstallShield Wizard for SOPHO CTI** window, click **Next** to continue.

The following window appears.

Setup SOPHO CTI - 4.0.1
Welcome to the InstallShield Wizard for SOPHO CTI
The InstallShield® Wizard will install SOPHO CTI on your computer. To continue, click Next.
< Back
Next >
Cancel

4 Click **Next** to continue.

The **Choose SOPHO CTI Program-files Destination Location** window appears.

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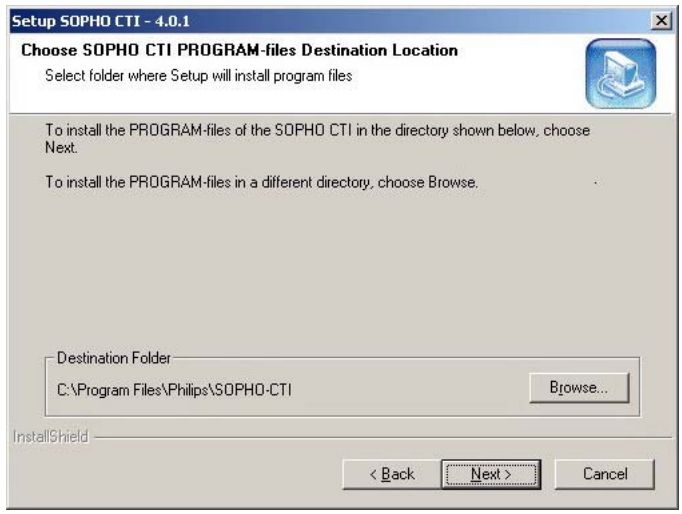
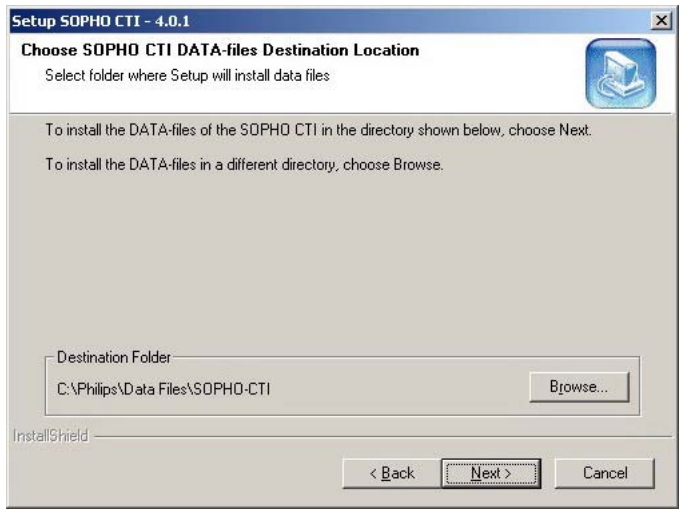

Setup SOPHO CTI - 4.0.1
Choose SOPHO CTI PROGRAM-files Destination Location
Select folder where Setup will install program files
To install the PROGRAM-files of the SOPHO CTI in the directory shown below, choose Next.
To install the PROGRAM-files in a different directory, choose Browse.
Destination Folder
C:\Program Files\Philips\SOPHO-CTI
Browse...
InstallShield
< Back
Next >
Cancel

5 Click **Next** to continue.

The **Choose SOPHO CTI DATA-files Destination Location** window appears.


Setup SOPHO CTI - 4.0.1
Choose SOPHO CTI DATA-files Destination Location
Select folder where Setup will install data files
To install the DATA-files of the SOPHO CTI in the directory shown below, choose Next.
To install the DATA-files in a different directory, choose Browse.
Destination Folder
C:\Philips\Data Files\SOPHO-CTI
Browse...
InstallShield
< Back
Next >
Cancel

6 Click **Next** to continue.

The **Start Copying Files** window appears.

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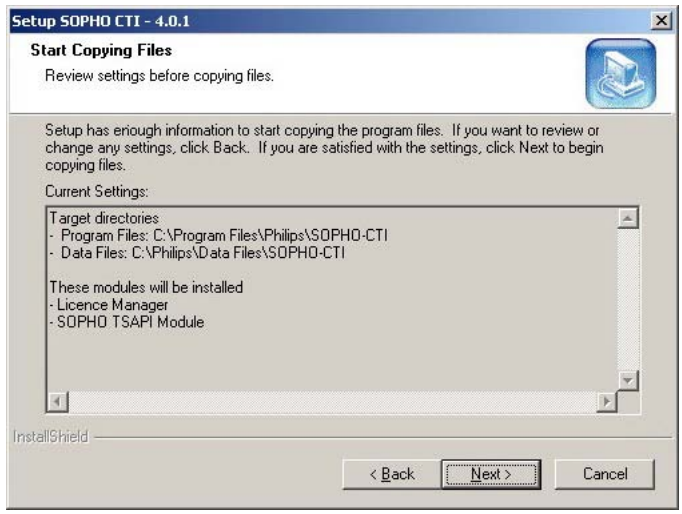
Setup SOPHO CTI - 4.0.1
Start Copying Files
Review settings before copying files.
Setup has enough information to start copying the program files. If you want to review or change any settings, click Back. If you are satisfied with the settings, click Next to begin copying files.
Current Settings:
Target directories
- Program Files: C:\Program Files\Philips\SOPHO-CTI
- Data Files: C:\Philips\Data Files\SOPHO-CTI
These modules will be installed
- Licence Manager
- SOPHO TSAPI Module
InstallShield
< Back
Next >
Cancel

7 Click **Next** to continue.

Several windows open to show the progress of the installation. At the end of the installation, you are asked to restart your computer.

Setup SOPHO CTI - 4.0.1
Restart your computer
Before the SOPHO CTI can be used your computer must be restarted.
Yes, I want to restart my computer now.
No, I will restart my computer later.
< Back
Finish
Cancel

8 Click **Finish**.

--End--

Note: When you restart your computer, the **Finalize Installation** window appears. Also, several small windows open to show the progress of the installation. One of the small windows shows SOPHO TSAP as checked. Another small window shows the installation of SOPHO CT. The small windows close automatically.

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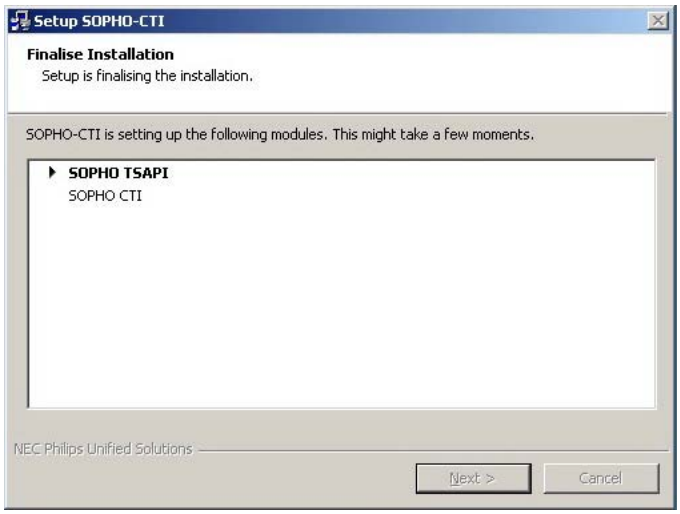
Figure 3
Finalize installation



Reopen this document, *DECT Messenger Installation and Commissioning* (NN43120-301), and continue on to the next procedure to finalize the installation of SOPHO CTI.

Procedure 9
Finalizing the installation of SOPHO CTI

Step	Action
1	When you restart your computer, insert the **USB dongle** you received with DECT Messenger in an USB port. The green light comes on and an informational window appears to indicate new hardware is found and ready to use.
2	Gather the license files that come with the hardware dongle The following is a sample license file shipped with the hardware dongle. The sample license contains a readable text file with the extension .ltx and a license-file with the extension .lic. The following sample license is an example of the .ltx file opened with Notepad.

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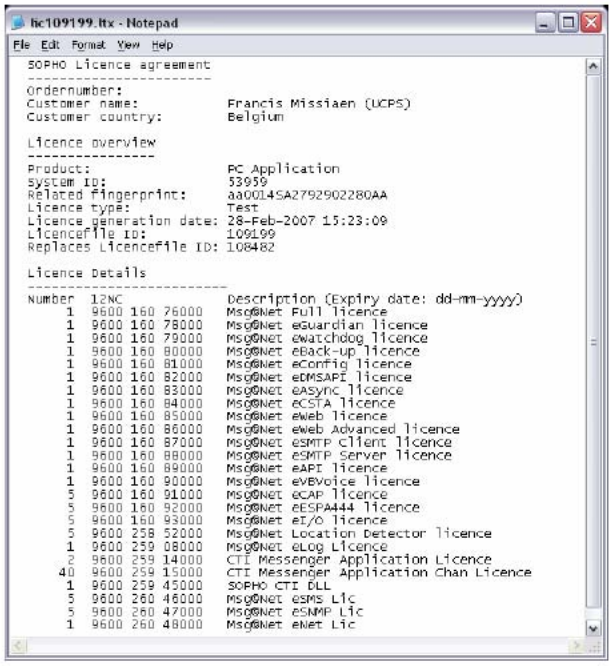
lic109199.ltx - Notepad
File Edit Format View Help
SOPHO Licence agreement
Ordernumber:
Customer name: Francis Missiaen (UCPS)
Customer country: Belgium
Licence overview
Product: PC Application
System ID: 53959
Related fingerprint: aA0014SA2792902280AA
Licence type: Test
Licence generation date: 28-Feb-2007 15:23:09
Licencefile ID: 109199
Replaces Licencefile ID: 108482
Licence Details
Number 12NC Description (Expiry date: dd-mm-yyyy)
1 9600 160 76000 MsG@Net Full licence
1 9600 160 78000 MsG@Net eGuardian licence
1 9600 160 79000 MsG@Net eWatchdog licence
1 9600 160 80000 MsG@Net eBack-up licence
1 9600 160 81000 MsG@Net eConfig licence
1 9600 160 82000 MsG@Net eDMSAPI licence
1 9600 160 83000 MsG@Net eASync licence
1 9600 160 84000 MsG@Net eCSTA licence
1 9600 160 85000 MsG@Net eWeb licence
1 9600 160 86000 MsG@Net eWeb Advanced licence
1 9600 160 87000 MsG@Net eSMTP client licence
1 9600 160 88000 MsG@Net eSMTP server licence
1 9600 160 89000 MsG@Net eAPI licence
1 9600 160 90000 MsG@Net eVBVoice licence
5 9600 160 91000 MsG@Net eCAP licence
5 9600 160 92000 MsG@Net eESPA444 licence
5 9600 160 93000 MsG@Net eI/O licence
5 9600 258 52000 MsG@Net Location Detector licence
1 9600 259 08000 MsG@Net eLog Licence
2 9600 259 14000 CTI Messenger Application Licence
40 9600 259 15000 CTI Messenger Application Chan Licence
1 9600 259 45000 SOPHO CTI DLL
5 9600 260 46000 MsG@Net eSMS Lic
5 9600 260 47000 MsG@Net eSNMP Lic
1 9600 260 48000 MsG@Net eNet Lic

3 Start the **License Manager**.

Go to **Start > Programs > SOPHO CTI > Configurations > License Manager**.

The License Manager window appears.

4 Click **OK**.

The Load New License String window appears.

5 Browse to the location of the License file you received for DECT Messenger.

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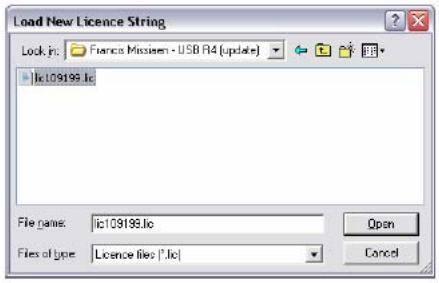
The license file can be distributed on diskette, CD-ROM, or electronically.

6 Click **Open**.

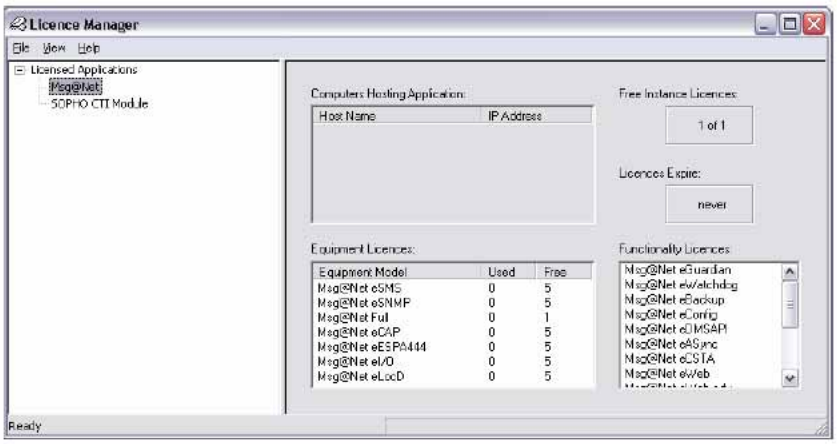


7 Browse to the location where the lic-file resides, as shown in the previous figure.

The previous figure contains an example of file called **lic109199.lic**. The number is different for every license file.

8 Click **Open**.

The following License manager window appears. The number of available Equipment Licenses and Functionality Licenses depends on the ordered items and configuration.



9 If SOPHO CTI Module is listed under Licensed Applications, as in the previous figure, click on **SOPHO CTI Module**.

Equipment licenses that are present appear. Typically, these licenses are found when using dasgif interfacing, for example when using SIP DECT infrastructure.

10 Close the License manager window by clicking **File** and **Exit**.

--End--

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Use the next procedure to verify the level of DLL and if necessary, install a DLL.

Procedure 10
Verifying the level of SOPHO CTI DLL

Step	Action
1	Look for the file SOPHOCTI.dll in the directory **\01 - Prerequisites\01.06 - License Manager\01.06.02 - SOPHO CTI 2.0.3.400 DLL**. In “Install PC - Step 2 - Nortel DECT Messenger” (page 95), you install DECT Messenger. When you install DECT Messenger, you find a directory structure: C:\SOPHO Messenger@Net\Exe.
2	After installing DECT Messenger, check the contents of directory **C:\SOPHO Messenger@Net\Exe**.
3	When you find files with a filename starting with **OAI** and having extension **dll**, delete these files manually. These files can be present because of the installation of a previous version of DECT Messenger.
4	If the file **SOPHOCTI.DLL** is absent, copy the file **SOPHOCTI.DLL** found in the directory **\01 - Prerequisites\01.06 - License Manager\01.06.02 - SOPHO CTI 2.0.3.400 DLL**.
5	If the file **SOPHOCTI.DLL** is present, copy the file **SOPHOCTI.DLL** found in the directory **\01 - Prerequisites\01.06 - License Manager\01.06.02 - SOPHO CTI 2.0.3.400 DLL** and replace the current file.

--End--

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Install PC - Step 1f - Database Engine

Nortel DECT Messenger supports five database engines for the Messenger_DATA database. Choose one of the following database engines prior to continuing.

- Microsoft Access 2000 (no engine applicable). See “Microsoft Access 2000” (page 52).
- Microsoft SQL Server 2000 (engine not included). See “Microsoft SQL Server 2000 and Microsoft SQL Server 2005” (page 52).
- Microsoft SQL Server 2005 (engine not included). See “Microsoft SQL Server 2000 and Microsoft SQL Server 2005” (page 52).
- Microsoft SQL Server 2000 Desktop Engine (engine included). See “Microsoft SQL Server 2000 Desktop Engine” (page 59).
- Microsoft SQL Server 2005 Express (engine included). See “Microsoft SQL Server 2005 Express” (page 64).

ATTENTION

Engine included, no engine applicable, or engine not included is indicated beside each of the database engines listed.

Engine included means the database engine is not dependant on an external database.

No engine applicable means that no engine is required. For example, Microsoft Access 2000 does not require an engine. Database contents are stored in a file.

Engine not included means the engine is not included with the software. The SQL Server 2005 or SQL Server 2000 are licensed software requiring license fees to Microsoft.

When choosing a database model, evaluate several parameters in the decision process:

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- Microsoft SQL Server 2005 Express and Microsoft Access 2000 typically reside on the Messenger PC, and are likely to be always available. The availability of the database engine is a concern because Messenger requires 24/24 7/7 uptime of its embedded database.
- The Access model is not recommended because it is not scalable. The Access model can only handle low or moderate workload.
- Microsoft SQL Server 2005 Express is a good option for most environments. Although a Microsoft restricted the engine, the Microsoft SQL Server 2005 Express is suitable to handle typical workload conditions, and does not require a license fee.
- The SQL Server flavours that are unrestricted require a license. An SQL server is an option if the customer environment already has such infrastructure and can guarantee the uptime.

Microsoft Access 2000

The Microsoft Access 2000 database (Messenger_DATA.mdb) is installed automatically, so you can skip this chapter.

Microsoft SQL Server 2000 and Microsoft SQL Server 2005

Before you start

Before you proceed with the installation of Microsoft SQL Server 2000 or Microsoft SQL Server 2005, restore the SQL Server 2000 engine or SQL Server 2005 engine. Install the Enterprise Manager utility as part of the SQL Server 2000 engine or the SQL Server 2005 engine.

Nortel recommends that you install the latest SQL Server service pack prior to continuing. Refer to the Microsoft web site at www.microsoft.com for more information on the SQL Server service pack

Before you continue, acquire the following information:

- User ID, for example, sa.
- Password associated with that user ID, for example, sa.
- Service instance name, for example (local), GNTN1SFMI, and so on.

  Note: In many cases, there is one service instance only for SQL Server, such as (local) – and you can address this default instance by means of the 127.0.0.1; reference.

Setting up Microsoft SQL Server 2000 or Microsoft SQL Server 2005

Verify that SQL Server Enterprise Manager is available on either the SQL Server, or on a networked administration PC.

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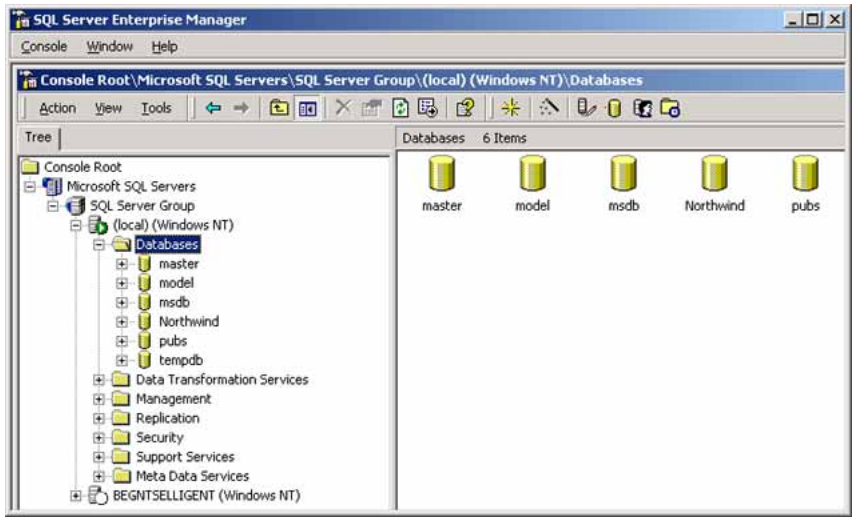
Procedure 11
Setting up Microsoft SQL Server 2000 or Microsoft SQL Server 2005

Step	Action
1	Start the **SQL Server Enterprise Manager**. Click **Start** and navigate to the SQL Server Enterprise Manager shortcut.
2	Add a server registration if you are working from an external platform (optional). If you are maintaining the SQL Server from an external platform, you can add a server registration by performing the following steps: • Highlight the **SQL Server Group**. • Right-click to open the pop-up menu. • Select the option **New SQL Server Registration**.
3	Create a new database. To create a new database, perform the following steps: • Highlight the **Database** node as shown in the following illustration:



	• Right-click to open the pop-up menu. • Select **New database**.
4	Enter the database name. Enter the database name **`Messenger_DATA`** as shown in the following illustration, and click **OK**.

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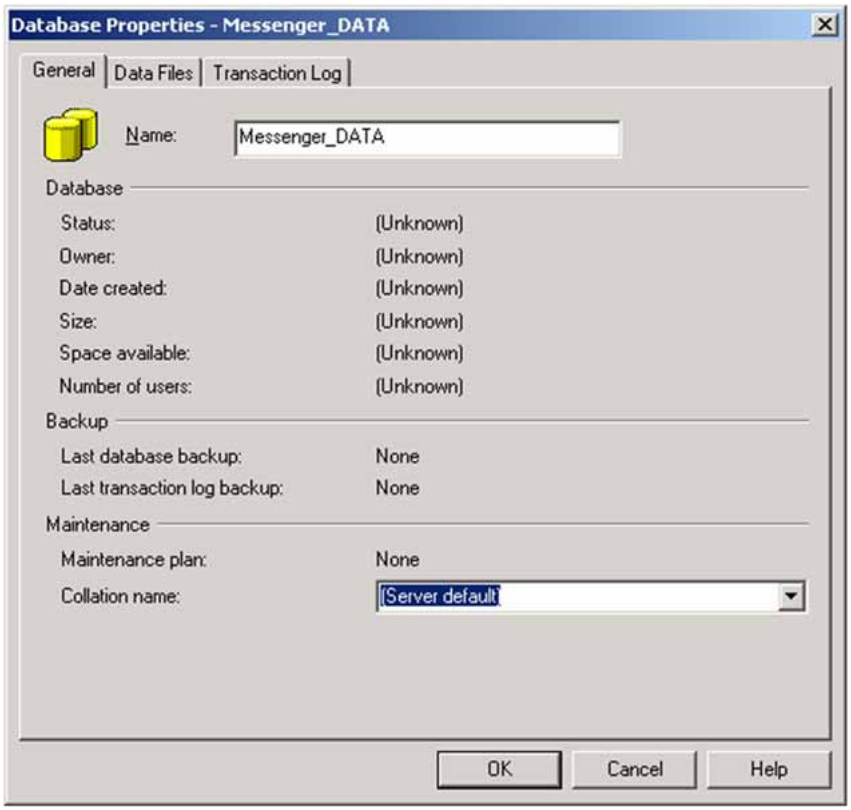

5 Restore database.

To restore the database, perform the following steps:

- Highlight the **Database** node, as shown in the following illustration:

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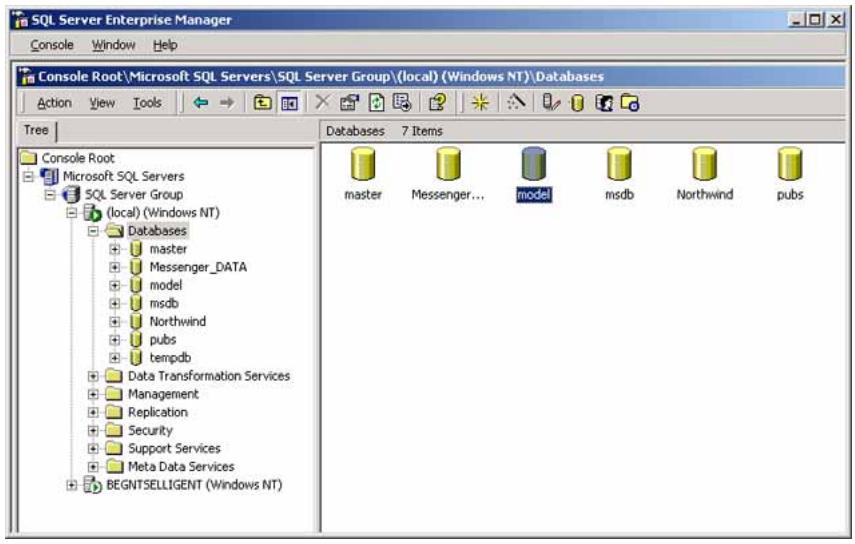
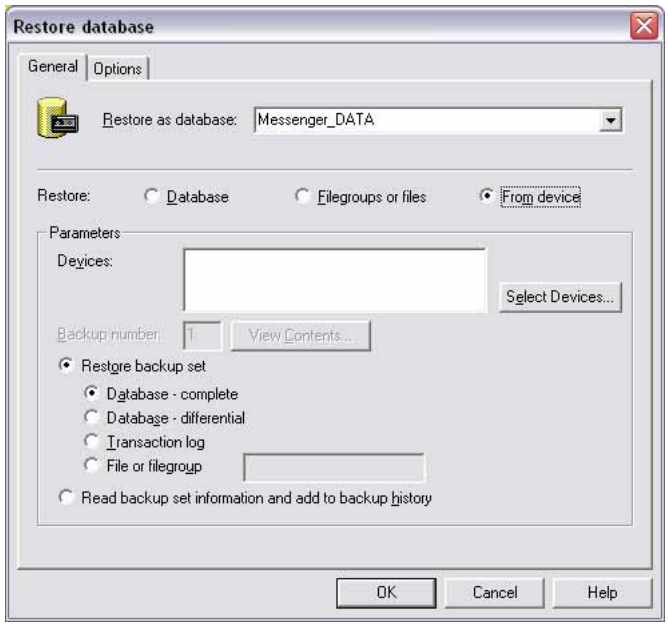


- Right-click to open the pop-up menu.
- Select the menu-option **All tasks > Restore database**.

6 Access the **Choose Restore Device** window.

- Choose **From Device**.
- Click **Select Devices**.



7 Add a restore path.

Click **Add**.

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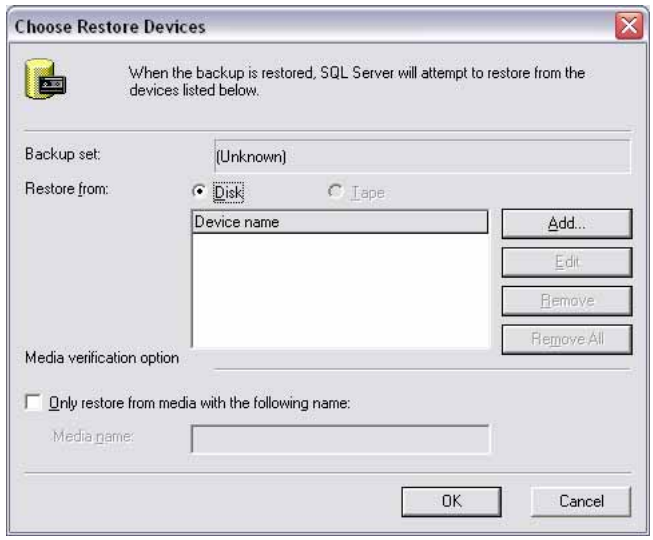

8 Set the path to the device from which you want to restore the database.

- Click the ... button to choose the restore location.
- Navigate to **\01 – Prerequisites\01.07 - Database engine\01.07.03 - SQL Server 2000\01.07.03.01 - Messenger_DATA**.
- Select the file **Messenger_DATA.backup**.
- Choose **OK** and the database is restored.

Choose Restore Destination
Select the file name or backup device to use for the restore operation. Backup devices can be created for files that you use frequently.
File name:
D:\Step 1 - Prerequisites\Step 1g - SQL Server a
...
Backup device:
OK
Cancel

9 Acknowledge the completion of the database restore operation.

Click **OK**.

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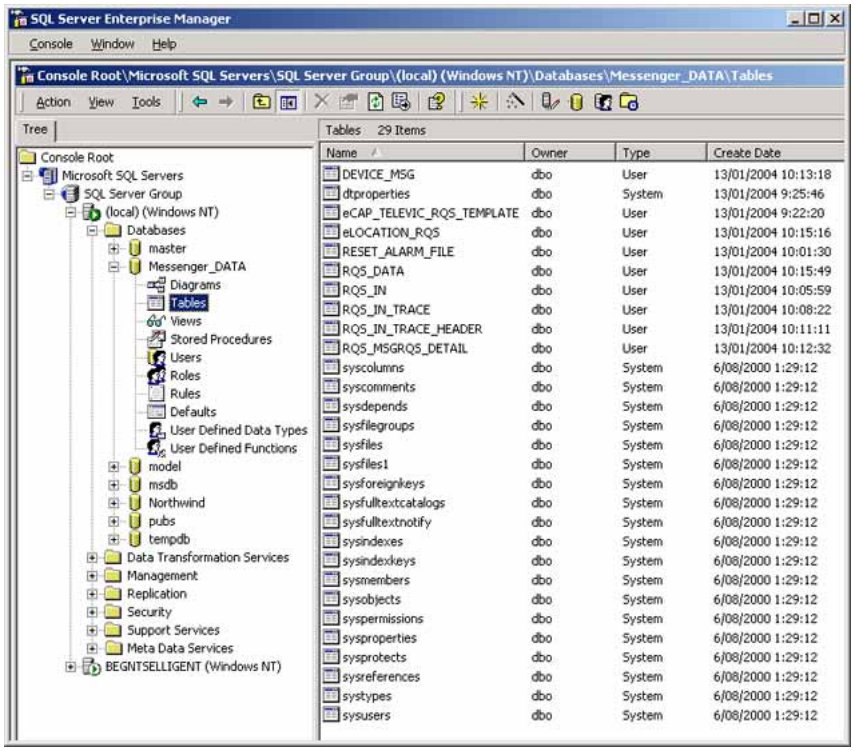
10 Verify the restore procedure.

As a result of the restore procedure, new entries appear in the Tables list of the Messenger_DATA database, as shown in the following illustration:



--End--

Transaction log maintenance

As the transaction log file grows, system resources are consumed. To correct this, follow the steps in Procedure 12 “Reducing transaction log resource consumption” (page 57).

Procedure 12
Reducing transaction log resource consumption

Step	Action
1	Clean up the transaction log. Open the **osql command line utility**.

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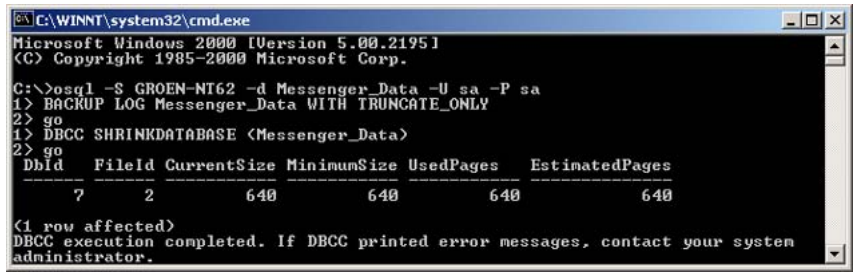
```
osql -S (local) -d Messenger_Data -U sa
```

- Enter **BACKUP LOG Messenger_Data WITH TRUNCATE_ONLY**.
- Enter **go**.
- Enter **DBCC SHRINKDATABASE (Messenger_Data)**.
- Enter **go**.
- Enter **exit**.

```
3>BACKUP LOG Messenger_Data WITH TRUNCATE_ONLY
4>go
4>DBCC SHRINKDATABASE (Messenger_Data)
5>go
6>exit
```

The output is displayed as follows:


C:\WINNT\system32\cmd.exe
Microsoft Windows 2000 [Version 5.00.2195]
(C) Copyright 1985-2000 Microsoft Corp.
C:\>osql -S GROEN-NT62 -d Messenger_Data -U sa -P sa
1> BACKUP LOG Messenger_Data WITH TRUNCATE_ONLY
2> go
1> DBCC SHRINKDATABASE (Messenger_Data)
2> go
DbId FileId CurrentSize MinimumSize UsedPages EstimatedPages
7 2 640 640 640 640
(1 row affected)
DBCC execution completed. If DBCC printed error messages, contact your system administrator.

2 Change database model to simple (no use of transaction log).

Open the osql command line utility

```
Osql -S (local) -d Messenger_Data -U sa
```

- Enter **alter database Messenger_Data set recovery simple**.
- Enter **go**.
- Enter **exit**.

```
4>alter database Messenger_Data set recovery simple
5>go
6>exit
```

The output is displayed as follows:

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--End--

Changing the database location

To adjust the location of the Messenger_DATA database repository, use the eCONFIG configuration tool, by defining a connection string for the Messenger_DATA database on site configuration level.

If DECT Messenger is not yet installed ("Installing the DECT Messenger" (page 95)), you can perform this step later on. If DECT Messenger is already installed, you can alter the definition of the repository in the Messenger_CFG database, by editing the field CFG_Connectionstring_DATA_str in the table eKERNEL_SITE. If you prefer to work without eCONFIG, you can use eGRID module or another database maintenance tool to maintain this table.

The following shows sample configuration setting, indicating the database is located on server 127.0.0.1, and can be accessed with user sa and password sa, and uses the catalog Messenger_DATA.

Adjust these settings according to your environment.

```
Provider=SQLOLEDB.1;Persist Security Info=False;User
ID=sa;Password=sa;Initial Catalog=Messenger_DATA;Data
Source=127.0.0.1;
```

When using eWEB_Advanced, configure the ODBC as well. If you change database engine of related configuration parameters, you must also alter the ODBC connections, as described in "Install PC - Step 4 - Web Server" (page 151).

Microsoft SQL Server 2000 Desktop Engine

Microsoft SQL Server 2000 Desktop Engine is shipped with DECT Messenger, in the directory \01 – Prerequisites\01.07 - Database engine\01.07.02 – SQL Server 2000 Desktop Engine\01.07.02.01 – SQL Server 2000 Desktop Engine.

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You must choose a password for the system administrator (username sa); the examples in this chapter use the password BEFMI@A31. This password is needed later to configure the DECT Messenger product, for example, when defining the ADO connection string for the Messenger_DATA database in the table eKERNEL_SITE.

Follow the steps in Procedure 13 “Setting up Microsoft SQL Server 2000 Desktop Engine” (page 60) if you plan to use the Microsoft SQL Server 2000 Desktop Engine.

Procedure 13
Setting up Microsoft SQL Server 2000 Desktop Engine

Step	Action
1	Open a command window.
2	Click **Start**.
3	Choose **Run > cmd**.
4	Change directory. Change the directory to the folder on the CD where the Microsoft SQL Server 2000 Desktop Engine setup is found. Enter the command as follows (substituting your CD-ROM drive letter instead of the example D): `cd D:\01 - Prerequisites\01.07 - Database engine\01.07 .02 - SQL Server 2000 Desktop Engine \01.07.02.01 - SQL Server 2000 Desktop Engine`
5	Enter the **setup command**. Enter the setup command as follows (enter the password you prefer instead of the example **`BEFMI@A31`**): `setup SAPWD=BEFMI@A31 SECURITYMODE=SQL TARGETDIR=C:\P rogram Files\SQL Server 2000 Desktop Engine /L*v C:/SQL Server 2000 Desktop EngineLog.log` ***Note 1:*** If you plan to use the example password, you can skip this step, and instead, double-click the install.bat located on the CD-ROM folder \01 – Prerequisites\01.07 - Database engine\01.07.02 - SQL Server 2000 Desktop Engine\01.07.02.01 - SQL Server 2000 Desktop Engine\ ***Note 2:*** If you experience problems, review the log file SQL2000DESKTOPENGINE.Log.log that is created in the C:\ directory. Delete the log file after successful installation.
6	Wait while the install proceeds.

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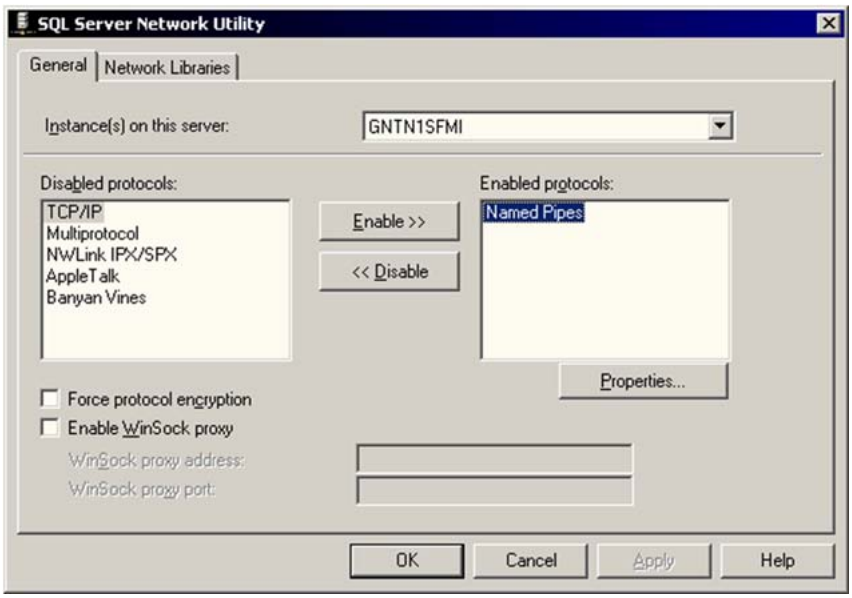
A series of information windows are displayed while the installation proceeds.

Note: The directories C:\Program Files\MSDEMSSQL and C:\Program Files\Microsoft SQL Server are created as part of the installation procedure.

7 Enable **Named Pipes**.

- Start the program **SVRNETCN.exe** in directory **C:\Program Files\Microsoft SQL Server\80\Tools\Binn** and enable the protocol **Named Pipes** as shown in the following illustration:



- Press **OK** and close the network utility.

8 Open the **Services** application.

Click **Start** on the Windows task bar and choose:

Settings > Control Panel > Administrative Tools > Services

9 Start **MSSQLSERVER**.

- Select **MSSQLSERVER** by left-clicking:

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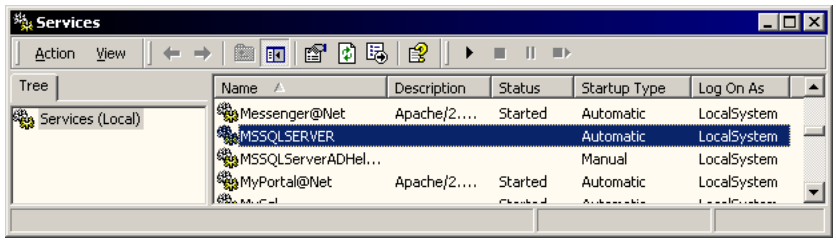
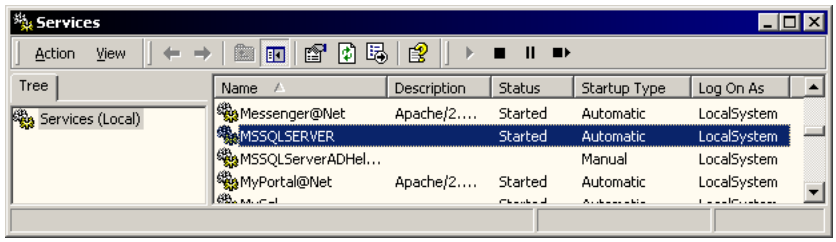


- Choose **Action > Start** in the menu. The Status column changes to read Started.



10 In the command window, change directory.

Enter the command as follows:

```
cd C:\Program Files\Microsoft SQL Server\80\Tools\Binn
```

11 Check for your server in the server list.

Enter the following command to list the available SQL Servers and MSDE servers.

```
osql -L
```

Look for your (local) server in the list.

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```
C:\Program Files\Microsoft SQL Server\80\Tools\Binn
>osql -L

Servers:
(local)
BEBRXPROXY
BEBRXTIVTMR
GNTINDMES
NTINDPDL
GNTINDPDL\NetSDK
GNTINDPLC
GNTN1SCCM
NTN1SCHP
GNTN1SKDS
IBSBI
SRV1
```

12 Verify that the **Microsoft SQL 2000 Database Engine** is running.

- Enter the command **`osql -U sa`** and press the **Enter** key.
- Enter the password – for example **`BEFMI@A31`** – when prompted.
- Enter **`select @@version`** on line 1.
- Enter **`go`** on line 2.
  The version is displayed, as shown in the following illustration:

```
C:\Program Files\Microsoft SQL Server\80\Tools\Binn>o
sql -U sa
Password:
1> select @@version
2> go
------------------------------------------------
---- ------------------------------------------
-------- ---------------------------------------
--------------
Microsoft SQL Server 2000 - 8.00.760 (Intel X86)
Dec 17 2002 14:22:05
Copy
right (c) 1988-2003 Microsoft Corporation
Desktop Engine on Windows NT
5.0 (Build 2195:  Service Pack 4)

(1 row affected)
```

- Enter **`quit`** to exit the command-line utility.

13 Restore the **Messenger_DATA** database.

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Perform either of the following:

- Double-click the install.bat file located in \01 – Prerequisites\01.07 - Database Engine\01.07.02 - SQL Server 2000 Desktop Engine\01.07.02.02 - Messenger_DATA\. The install.bat processes the SQL script file Messenger_DATA.sql. If a previous version of Messenger_DATA exists, this replaces the existing file with a new one. The install.bat script prompts you for the password of the SQL Server when needed.
- Manually restore the database from the backup image available on the CD-ROM, by copying the file Messenger_DATA.backup from the directory \01 - Prerequisites\01.07 - Database engine\01.07.02 - SQL Server 2000 Desktop Engine \01.07.02.02 - Messenger_DATA\ to the directory C:\SOPHO Messenger@Net\Sql\.

```
osql -S (local) -Q RESTORE DATABASE Messenger_DATA
FROM DISK='\01 - Prerequisites\01.07 - Database
engine\01.07.02 - SQL Server 2000 Desktop Engine
\01.07.02.02 - Messenger_DATA\ C:\SOPHO Messenger@Net
\Sql\Messenger_DATA.backup' WITH REPLACE -U sa
Password:  xxxxxxx (for example, BEFMI@A31)
Processed 248 pages for database 'Messenger_DATA',
file 'Messenger_DATA' on
file 1.
Processed 1 pages for database 'Messenger_DATA', file
'Messenger_Log' on file 1.
RESTORE DATABASE successfully processed 249 pages in
0.665 seconds (3.058
MB/sec).

C:\Program Files\Microsoft SQL Server\80\Tools\Binn>
```

--End--

Microsoft SQL Server 2005 Express

You can find Microsoft SQL Server 2005 Express on the CD-ROM shipped with DECT Messenger in the directory \01 – Prerequisites\01.07 - Database Engine\01.07.01 - SQL Server 2005 Express Edition\.

Use the steps in the following procedures if you plan to use Microsoft SQL Server 2005 Express.

- Procedure 14 “Installing .NET Framework 2.0” (page 65)
- Procedure 15 “Installing Microsoft Data Access Components (MDAC)” (page 67)

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- Procedure 16 “Installing Microsoft Windows Installer” (page 68)
- Procedure 17 “Installing Microsoft SQL Server 2005 Express Edition” (page 70)

Procedure 14
Installing .NET Framework 2.0

Step	Action
1	Navigate to Install .NET Framework 2.0, located on the CD-ROM image in directory **01 – Prerequisites\01.07 - Database engine\01.07.01 - SQL Server 2005 Express Edition\01.07.01.01 - Microsoft .NET Framework Version 2.0**.
2	Double-click the file **dotnetfx.exe**.
3	When the following figure appears, click **Run**.

Open File - Security Warning
Do you want to run this file?
Name: dotnetfx.exe
Publisher: Microsoft Corporation
Type: Application
From: E:\01 - Prerequisites\01.07 - SQL Server and MSDE...
Run
Cancel
While files from the Internet can be useful, this file type can potentially harm your computer. Only run software from publishers you trust. What's the risk?

4	In the Setup wizard window, click **Next**.

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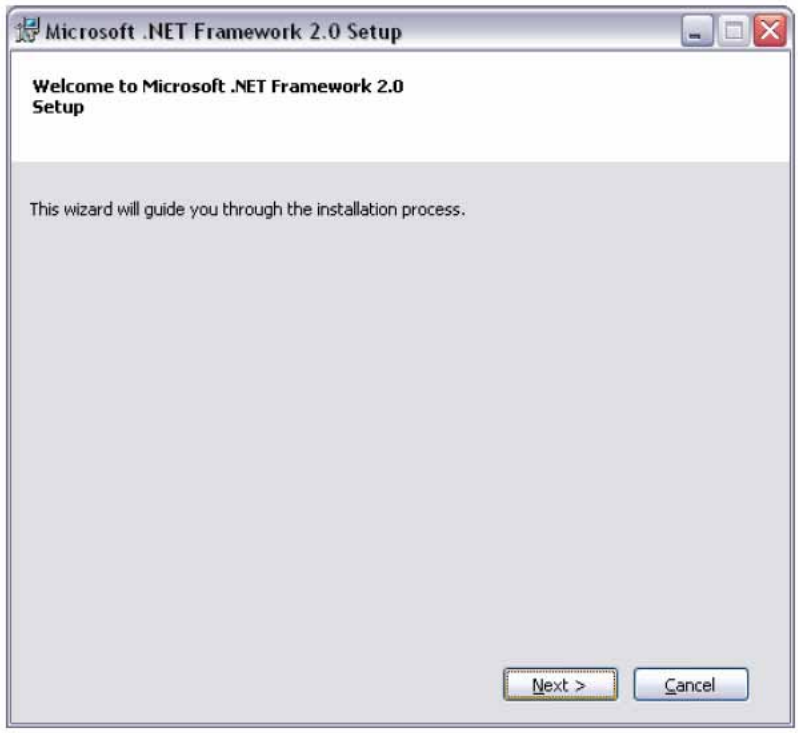
Microsoft .NET Framework 2.0 Setup
Welcome to Microsoft .NET Framework 2.0 Setup
This wizard will guide you through the installation process.
Next >
Cancel

5 After you read the **License Agreement**, select the check box to accept the License Agreement.

6 Click **Install**.

A progress window appears.

7 When installation is complete and the **Setup Complete** window appears, click **Finish**.

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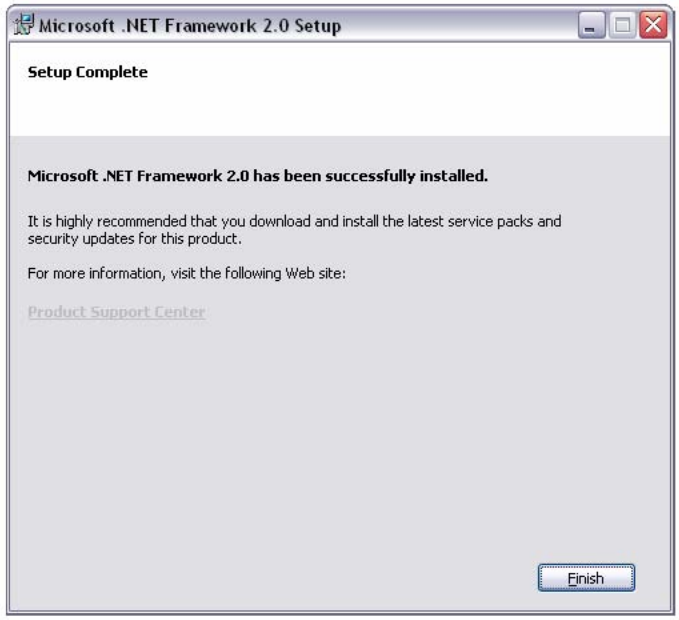
Microsoft .NET Framework 2.0 Setup
Setup Complete
Microsoft .NET Framework 2.0 has been successfully installed.
It is highly recommended that you download and install the latest service packs and security updates for this product.
For more information, visit the following Web site:
Product Support Center
Finish

--End--

Procedure 15
Installing Microsoft Data Access Components (MDAC)

Step	Action
1	Navigate to **MDAC 2.8 SP1**, located on the CD-ROM in directory **\01 – Prerequisites\01.07 - Database Engine\01.07.01 - SQL Server 2005 Express Edition\01.07.01.03 - Microsoft Data Access Components (MDAC) 2.8 SP1**.
2	Double-click on file **MDAC_TYP.EXE**.
3	In the window that appears, click **Run** and follow the instructions.

Open File - Security Warning
Do you want to run this file?
Name: MDAC_TYP.EXE
Publisher: Microsoft Corporation
Type: Application
From: E:\01 - Prerequisites\01.07 - SQL Server and MSDE...
Run
Cancel
While files from the Internet can be useful, this file type can potentially harm your computer. Only run software from publishers you trust. What's the risk?

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If your setup does not support installation on your operating system, a Fatal Setup Error message appears. You cannot install MDAC 2.8 SP1.

--End--

Procedure 16
Installing Microsoft Windows Installer

Step	Action
1	Navigate to the **Microsoft Windows Installer**, located on the CD-ROM in the directory **\01 – Prerequisites\01.07 - Database engine\01.07.01 - SQL Server 2005 Express Edition\01.07.01.02 - Microsoft Windows Installer 3.1**.
2	Double-click the file **WindowsInstaller- KB893803-v2-x86.exe**.
3	When the warning in the following figure appears, click **Run**.

Open File - Security Warning
Do you want to run this file?
Name: WindowsInstaller-KB893803-v2-x86.exe
Publisher: Microsoft Corporation
Type: Application
From: E:\01 - Prerequisites\01.07 - Database engine\01....
Run
Cancel
While files from the Internet can be useful, this file type can potentially harm your computer. Only run software from publishers you trust. What's the risk?

4	When the following window appears, click **Next** .

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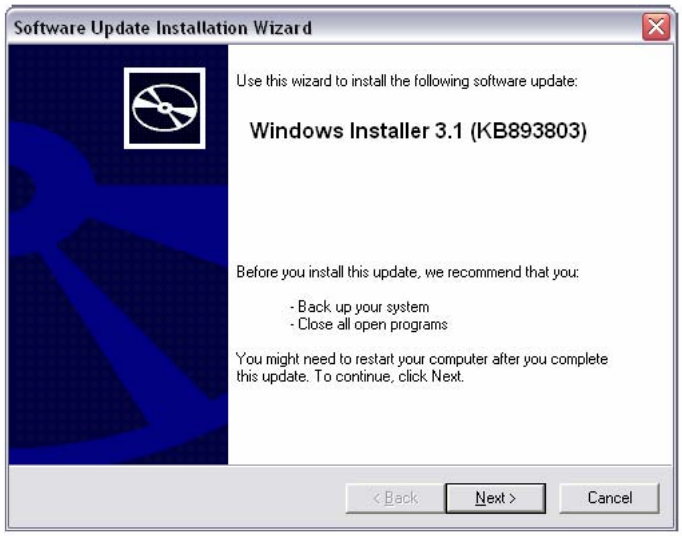
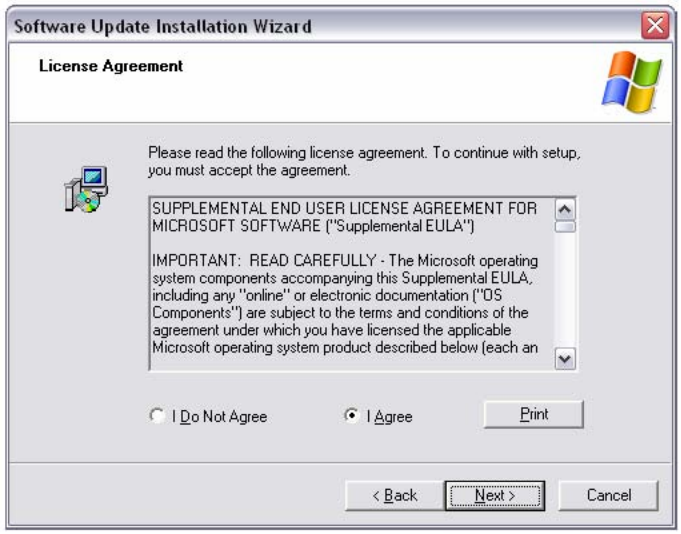

Software Update Installation Wizard
Use this wizard to install the following software update:
Windows Installer 3.1 (KB893803)
Before you install this update, we recommend that you:
- Back up your system
- Close all open programs
You might need to restart your computer after you complete this update. To continue, click Next.
< Back
Next >
Cancel

5 When the following window appears, choose **I Agree**.


Software Update Installation Wizard
License Agreement
Please read the following license agreement. To continue with setup, you must accept the agreement.
SUPPLEMENTAL END USER LICENSE AGREEMENT FOR MICROSOFT SOFTWARE ("Supplemental EULA")
IMPORTANT: READ CAREFULLY - The Microsoft operating system components accompanying this Supplemental EULA, including any "online" or electronic documentation ("OS Components") are subject to the terms and conditions of the agreement under which you have licensed the applicable Microsoft operating system product described below (each an
I Do Not Agree
I Agree
Print
< Back
Next >
Cancel

6 Click **Next** to continue.

7 When the window shown in the following figure appears, the install of Windows Installer 3.1 is complete. Click **Finish**.

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Software Update Installation Wizard
Completing the Windows Installer 3.1 (KB893803) Installation Wizard
You have successfully completed the KB893803v2 Setup Wizard.
To apply the changes, the wizard has to restart Windows. To restart Windows automatically, click Finish. If you want to restart later, select the Do not restart now check box, and then click Finish.
Do not restart now
< Back
Finish
Cancel

--End--

Now that NET Framework 2.0, MDAC 2.8 SP1, and Windows Installer 3.1 are present, all prerequisite conditions are met, and you can install SQL Server 2005 Express Edition.

Procedure 17
Installing Microsoft SQL Server 2005 Express Edition

Step	Action
1	Navigate to the **Microsoft SQL Server Express Edition**, located on the CD-ROM in the directory **\01 – Prerequisites\01.07 - Database engine\01.07.01 - SQL Server 2005 Express Edition\01.07.01.04 - Microsoft SQL Server 2005 Express Edition**.
2	Double-click on the file **SQLEXPR.EXE**.
3	When the warning shown next appears, click **Run**.

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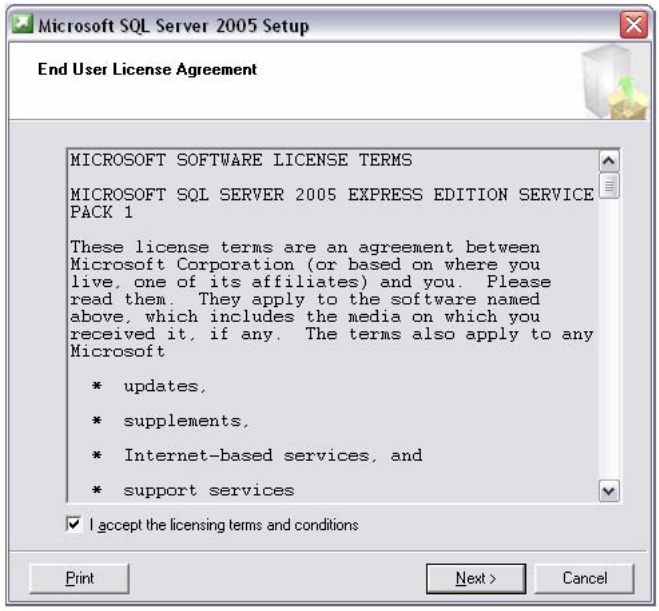
Open File - Security Warning
Do you want to run this file?
Name: SQLEXPR.EXE
Publisher: Microsoft Corporation
Type: Application
From: E:\01 - Prerequisites\01.07 - SQL Server and MSDE...
Run
Cancel
While files from the Internet can be useful, this file type can potentially harm your computer. Only run software from publishers you trust. What's the risk?

4 Read the **End User License Agreement** and choose **I accept** on the End User License Agreement as shown in the following figure.


Microsoft SQL Server 2005 Setup
End User License Agreement
MICROSOFT SOFTWARE LICENSE TERMS
MICROSOFT SQL SERVER 2005 EXPRESS EDITION SERVICE PACK 1
These license terms are an agreement between Microsoft Corporation (or based on where you live, one of its affiliates) and you. Please read them. They apply to the software named above, which includes the media on which you received it, if any. The terms also apply to any Microsoft
* updates,
* supplements,
* Internet-based services, and
* support services
I accept the licensing terms and conditions
Print
Next >
Cancel

5 Click **Next** to continue.

6 When the window shown in the following figure appears, click **Install**.

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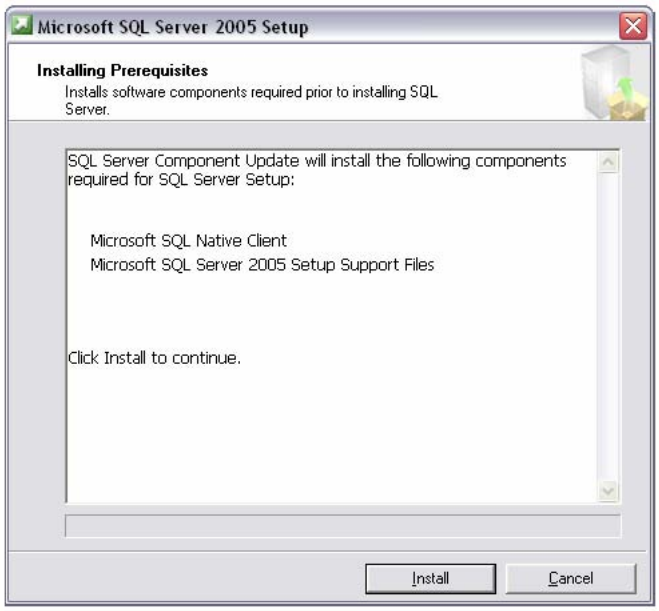
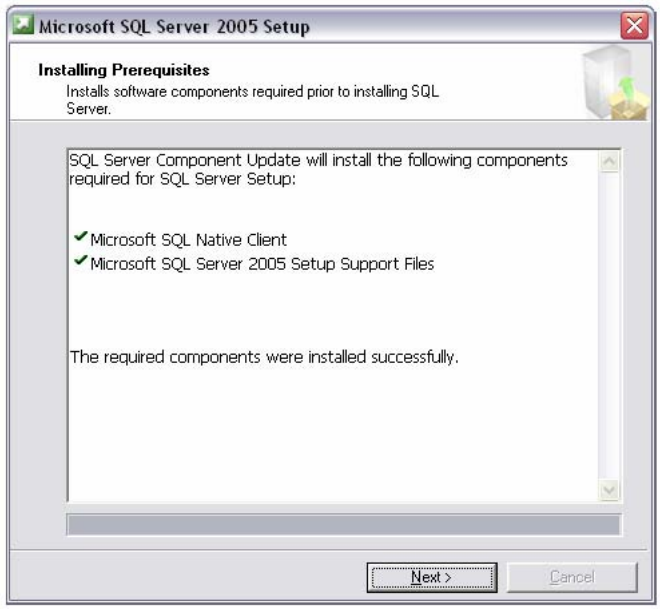

Microsoft SQL Server 2005 Setup
Installing Prerequisites
Installs software components required prior to installing SQL Server.
SQL Server Component Update will install the following components required for SQL Server Setup:
Microsoft SQL Native Client
Microsoft SQL Server 2005 Setup Support Files
Click Install to continue.
Install
Cancel

Another setup window appears that indicates the SQL Native Client and the SQL Server Setup Support Files are installed.


Microsoft SQL Server 2005 Setup
Installing Prerequisites
Installs software components required prior to installing SQL Server.
SQL Server Component Update will install the following components required for SQL Server Setup:
Microsoft SQL Native Client
Microsoft SQL Server 2005 Setup Support Files
The required components were installed successfully.
Next >
Cancel

7 Click **Next** to continue.

8 When the Installation Wizard appears, as shown in the next figure, click **Next**.

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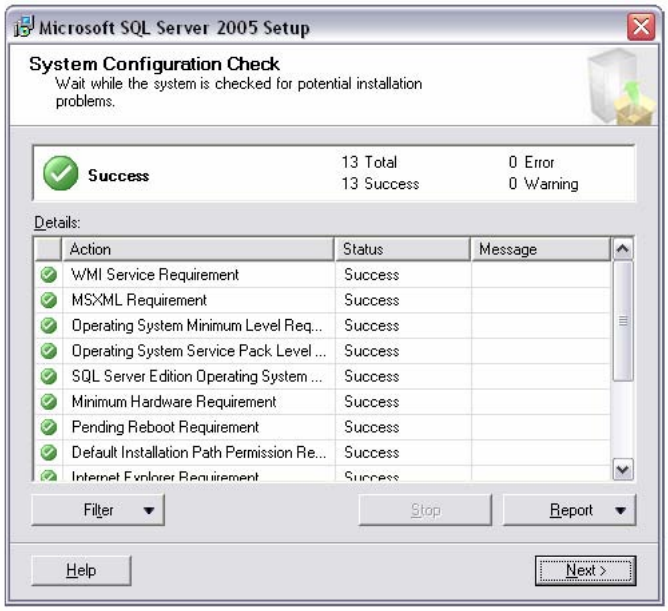
Microsoft SQL Server 2005 Setup
Welcome to the Microsoft SQL Server Installation Wizard
Setup will help you install, modify or remove Microsoft SQL Server. To continue, click Next.
< Back
Next >
Cancel

9 When the System Configuration Check window appears, shown in the following figure, click **Next**.



When all the items are updated the status of all items changes to **Success**.

10 Click **Next**.

The Registration Information window appears.

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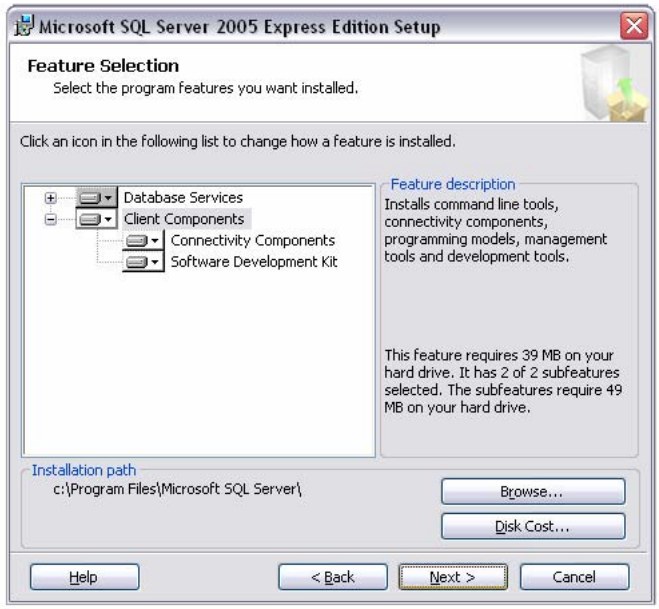
Microsoft SQL Server 2005 Express Edition Setup
Registration Information
The following information will personalize your installation.
The Name field must be filled in prior to proceeding. The Company field is optional.
Name:
BEQ06557
Company:
NEC Philips Unified Solutions
Hide advanced configuration options
Help
< Back
Next >
Cancel

11 In the Registration Information window, verify your **user name** and your **company name**.

12 Check the **Client Components** to be installed, as shown in the following figure.


Microsoft SQL Server 2005 Express Edition Setup
Feature Selection
Select the program features you want installed.
Click an icon in the following list to change how a feature is installed.
Database Services
Client Components
Connectivity Components
Software Development Kit
Feature description
Installs command line tools, connectivity components, programming models, management tools and development tools.
This feature requires 39 MB on your hard drive. It has 2 of 2 subfeatures selected. The subfeatures require 49 MB on your hard drive.
Installation path
c:\Program Files\Microsoft SQL Server\
Browse...
Disk Cost...
Help
< Back
Next >
Cancel

13 Click **Next**.

The Authentication Mode window appears.

14 In the **Authentication Mode** window, choose **Mixed mode**.

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Microsoft SQL Server 2005 Express Edition Setup
Authentication Mode
The authentication mode specifies the security used when connecting to SQL Server.
Select the authentication mode to use for this installation.
Windows Authentication Mode
Mixed Mode (Windows Authentication and SQL Server Authentication)
Specify the sa logon password below:
Enter password:
****
Confirm password:
****
Help
< Back
Next >
Cancel

15 In the **Authentication Mode** window, choose a password for the system administrator (username sa); the examples in this chapter use the password BEFMI@A31.

If you choose another password, you must adjust several settings later on, for example in the connection string of the Messenger_DATA database in eKERNEL_SITE table, and in the ODBC deftion for Messenger_DATA.

16 Click **Next**.

The Error and Usage Report Settings window appears.

17 In the **Error and Usage Settings** window, leave the two check boxes unchecked in the window that appears, as shown in the next figure.

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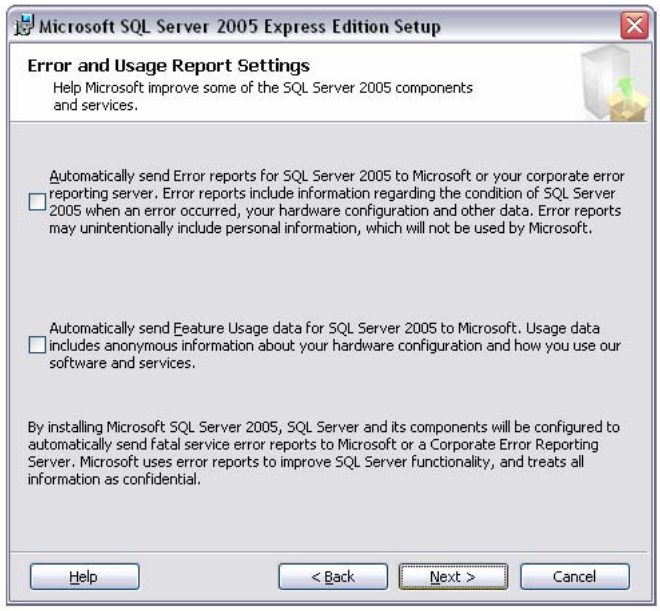
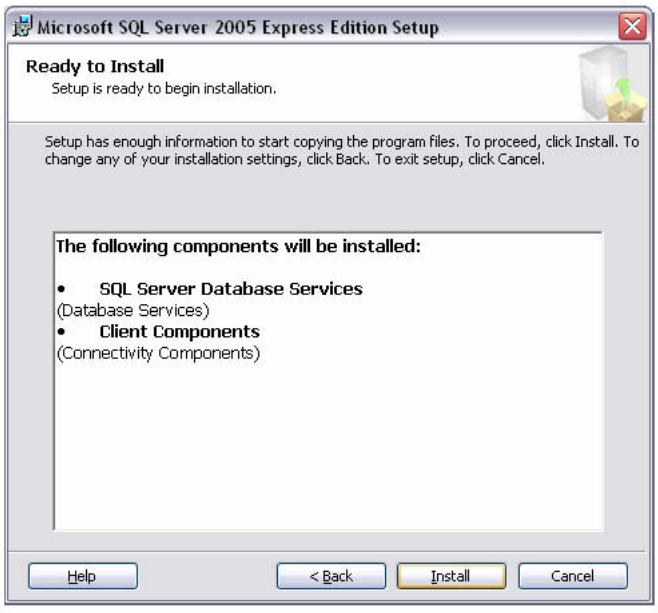

Microsoft SQL Server 2005 Express Edition Setup
Error and Usage Report Settings
Help Microsoft improve some of the SQL Server 2005 components and services.
Automatically send Error reports for SQL Server 2005 to Microsoft or your corporate error reporting server. Error reports include information regarding the condition of SQL Server 2005 when an error occurred, your hardware configuration and other data. Error reports may unintentionally include personal information, which will not be used by Microsoft.
Automatically send Feature Usage data for SQL Server 2005 to Microsoft. Usage data includes anonymous information about your hardware configuration and how you use our software and services.
By installing Microsoft SQL Server 2005, SQL Server and its components will be configured to automatically send fatal service error reports to Microsoft or a Corporate Error Reporting Server. Microsoft uses error reports to improve SQL Server functionality, and treats all information as confidential.
Help
< Back
Next >
Cancel

18 Click **Next**.

The **Ready to Install** window appears. See the next figure.


Microsoft SQL Server 2005 Express Edition Setup
Ready to Install
Setup is ready to begin installation.
Setup has enough information to start copying the program files. To proceed, click Install. To change any of your installation settings, click Back. To exit setup, click Cancel.
The following components will be installed:
SQL Server Database Services
(Database Services)
Client Components
(Connectivity Components)
Help
< Back
Install
Cancel

19 In the **Ready to Install** window, click **Install**.

The **Setup Progress** window appears. See the next figure.

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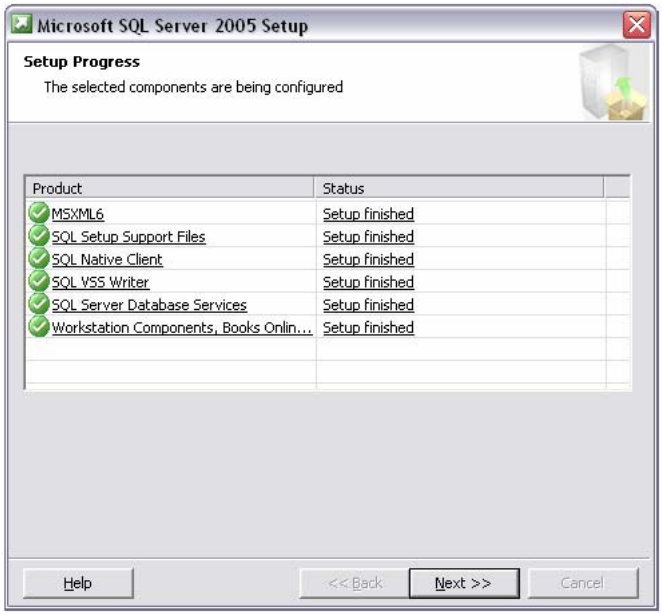
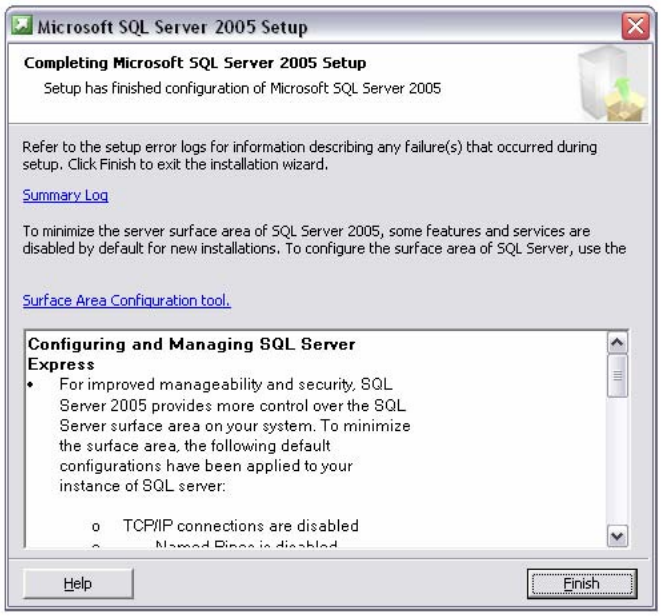


20 Click **Next**.

The **Completing Microsoft SQL Server 2005 Setup** window appears.


Microsoft SQL Server 2005 Setup
Completing Microsoft SQL Server 2005 Setup
Setup has finished configuration of Microsoft SQL Server 2005
Refer to the setup error logs for information describing any failure(s) that occurred during setup. Click Finish to exit the installation wizard.
Summary Log
To minimize the server surface area of SQL Server 2005, some features and services are disabled by default for new installations. To configure the surface area of SQL Server, use the
Surface Area Configuration tool.
Configuring and Managing SQL Server Express
For improved manageability and security, SQL Server 2005 provides more control over the SQL Server surface area on your system. To minimize the surface area, the following default configurations have been applied to your instance of SQL server:
o TCP/IP connections are disabled
Help
Finish

21 Click **Finish**.

--End--

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Configure and manage SQL Server Express

For improved manageability and security, SQL Server 2005 provides more control over the SQL Server surface area on your system. To minimize the surface area, the following default configurations are applied to your instance of SQL server.

- TCP/IP connections are disabled
- Named Pipes is disabled
- SQL Browser must be started manually
- OPENROWSET and OPENDATASOURCE are disabled
- CLR integration is disabled
- OLE automation is disabled
- xp_cmdshell is disabled

To enable or disable features and services, run the SQL Server Surface Area Configuration tool from the Start menu.

To install SQL Server Management Studio Express Edition, download it from the SQL Server Developer Center on MSDN (http://go.microsoft.com/fwlink/?linkid=51793).

Documentation and samples

- To install SQL Server 2005 Books Online, download them from the SQL Server Developer Center on MSDN (http://go.microsoft.com/fwlink/?linkid=51793).
- To install the .NET Framework SDK, see Installing the .NET Framework SDK in SQL Server Books Online.
- To install sample databases and code samples, download the SQL Server Samples from the SQL Server Developer Center on MSDN (http://go.microsoft.com/fwlink/?linkid=51793).

Adjust the SQL Server Configuration Manager

To adjust the SQL Server Configuration Manager, use the steps in the following procedure.

Procedure 18
Adjusting the SQL Server Configuration Manager

Step	Action
1	Navigate to **Start > Programs > Microsoft SQL Server 2005 > Configuration Tools > SQL Server Configuration Manager.** The **SQL Server Configuration Manager** window appears.

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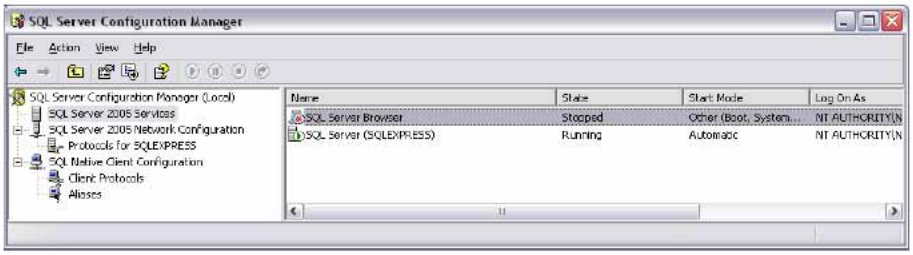

By default the SQL Server Browser is in state Stopped, and does not start automatically.

2 Right-click on **SQL Server Browser**.

3 Choose **Properties** from the pull down menu.

4 To change the Start Mode from Disabled into Automatic, choose **Disabled** or **Automatic**, as shown in the following two figures.

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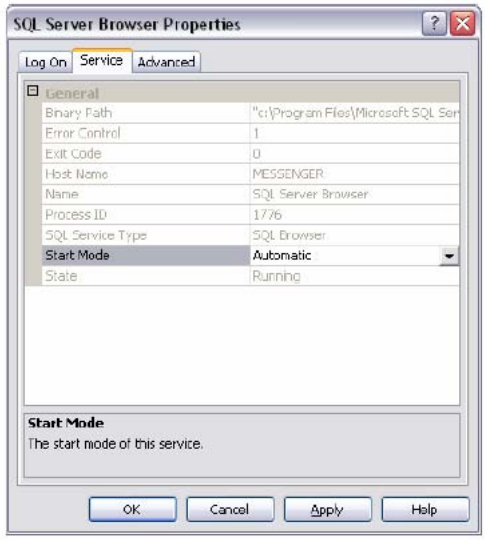
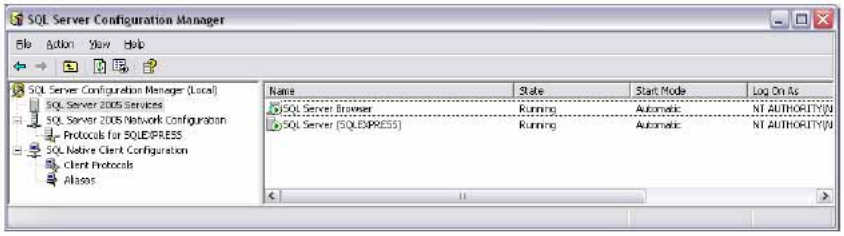
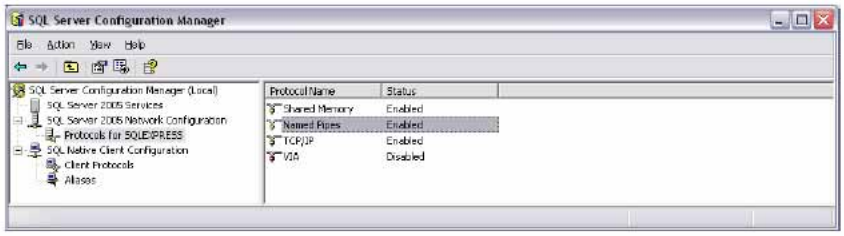


5 Start the **SQL Server Browser** as shown in the following figure.



6 Enable **Shared Memory**, **Named Pipes**, and **TCP/IP** in Protocols for SQLEXPRESS.



7 Enable **Shared Memory**, **Named Pipes**, and **TCP/IP** in Client Protocols.

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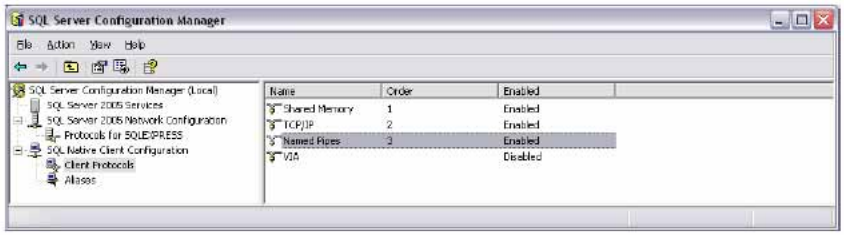

--End--

Adjust the SQL Server Surface Area Configuration

To adjust the SQL Server Surface Area Configuration, use the steps in the following procedure.

Procedure 19
Adjusting the SQL Server Surface Area Configuration

Step	Action
1	Navigate to **Start > Program > Microsoft SQL Server 2005 > Configuration Tools > SQL Server Surface Area Configuration.** The **Minimize SQL Server 2005 Surface Area** window appears.

SQL Server 2005 Surface Area Configuration
Microsoft SQL Server 2005
Help Protect Your SQL Server
Windows Server System
Minimize SQL Server 2005 Surface Area
SQL Server 2005 improves manageability and security by giving administrators more control over the surface area of local and remote instances of SQL Server 2005. With the SQL Server 2005 Surface Area Configuration tools, you can easily:
• Disable unused services and network protocols for remote connections.
• Disable unused features of SQL Server components.
For new installations, use these tools to enable required features, services, and network protocols that are disabled by default. For upgraded instances, use these tools to identify and disable unused features, services, and protocols.
Read more about configuring the SQL Server surface area.
Configure Surface Area for localhost (change computer)
Surface Area Configuration for Services and Connections
Surface Area Configuration for Features

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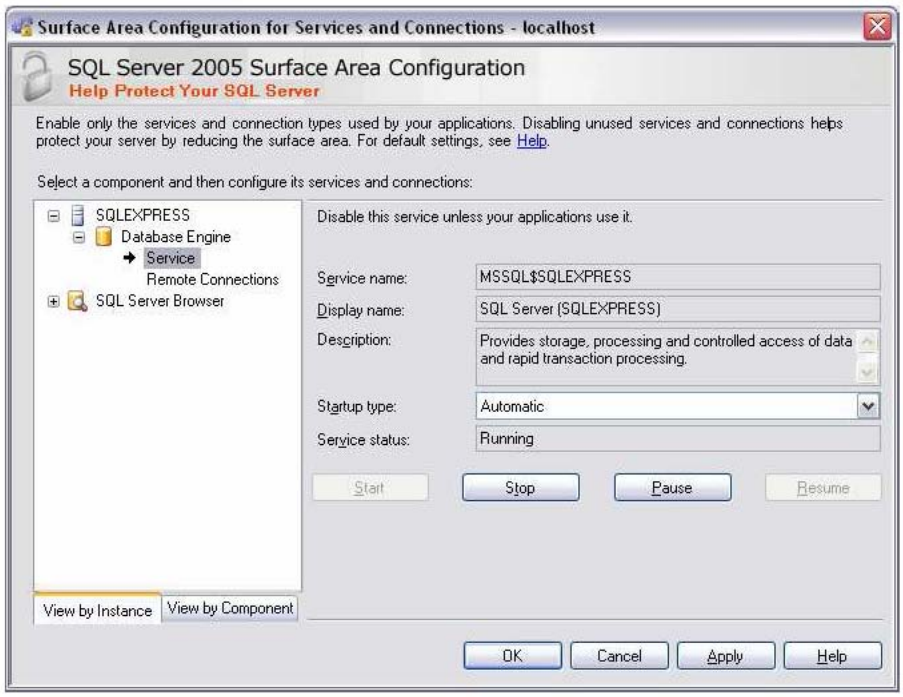
2 In the Minimize SQL Server 2005 Surface Area window, click on **Surface Area Configuration for Services and Connections**.

The SQL Server 2005 Surface Area Configuration window appears.



3 In the SQL Server 2005 Surface Area Configuration window, perform the following actions.

- Verify that the SQL Server Database Engine has Startup type **Automatic** and Service status **Running**.
- Enable the **Local and remote connections** and select **Using named pipes only**
- Verify that the SQL Server Browser as Startup type **Automatic** and Service status **Running**.

4 Click **Apply** and close the SQL Server 2005 Surface Area Configuration window.

5 Navigate in the command window to the directory **C:\Program Files\Microsoft SQL Server\90\Tools\Binn**.

6 To open a command line window, go to **Start > cmd**.

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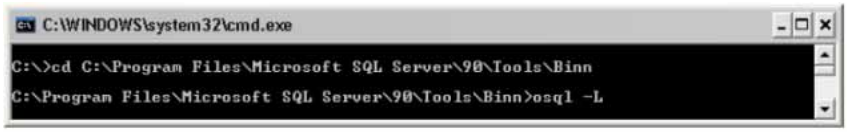
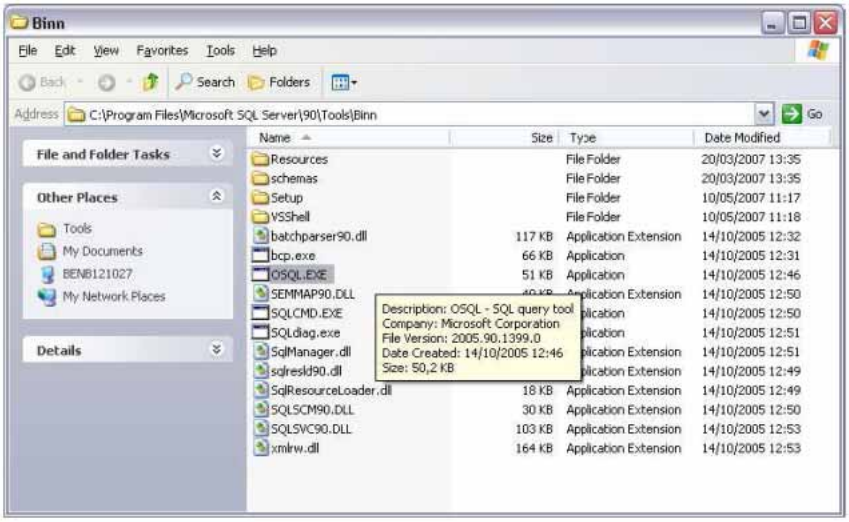


7 Use the **OSQL** command line tool to verify the location of the SQL Server 2005 Express instance.


Binn
File Edit View Favorites Tools Help
Search Folders
Address C:\Program Files\Microsoft SQL Server\90\Tools\Binn
File and Folder Tasks
Other Places
Tools
My Documents
BENB121027
My Network Places
Details
Name Size Type Date Modified
Resources File Folder 20/03/2007 13:35
schemas File Folder 20/03/2007 13:35
Setup File Folder 10/05/2007 11:17
VSShell File Folder 10/05/2007 11:18
batchparser90.dll 117 KB Application Extension 14/10/2005 12:32
bcp.exe 66 KB Application 14/10/2005 12:31
OSQL.EXE 51 KB Application 14/10/2005 12:46
SEMMAP90.DLL Application Extension 14/10/2005 12:50
SQLCMD.EXE plication 14/10/2005 12:50
SQLdiag.exe plication 14/10/2005 12:51
SqlManager.dll plication Extension 14/10/2005 12:51
sqlresld90.dll plication Extension 14/10/2005 12:49
SqlResourceLoader.dll 18 KB Application Extension 14/10/2005 12:49
SQLSCM90.DLL 30 KB Application Extension 14/10/2005 12:50
SQLSVC90.DLL 103 KB Application Extension 14/10/2005 12:53
xmlrw.dll 164 KB Application Extension 14/10/2005 12:53
Description: OSQL - SQL query tool
Company: Microsoft Corporation
File Version: 2005.90.1399.0
Date Created: 14/10/2005 12:46
Size: 50,2 KB

The osql-L command shows the available instances of OSQL. For example, if your computer name is MESSENGER, you find an instance name called MESSENGER\SQLEXPRESS.

8 Write down the instance name. You need the instance name later in this procedure.

9 Use the osql command line interface to verify if you can authenticate your server instance.

For example, if your service instance is called MESS ENGER\SQLEXPRESS, use the command **`osql -S MESSENGER\SQLEXPRESS -U sa`** to determine if you can authenticate with user sa and the password you assigned to that user, for example sa.

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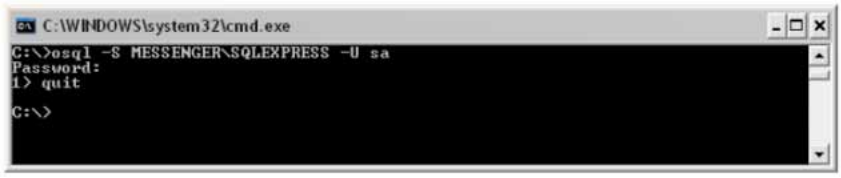

10 Verify that the MSDE engine is running, using the same osql command line utility. Enter the command **osql –U sa** and press **Enter**.

11 Enter the password, for example **sa,** when prompted.

12 Enter **select** @@**version** on line 1 and **go** on line 2.

The version is shown as illustrated in the following figure.

```
C:\Program Files\Microsoft SQL Server 2005\80\Tools\Binn>osql -U sa
Password:
Sa
1> select @@version
2> go


------------------------------------------------------------------------
------------------------------------------------------------------------
------------------------------------------------------------------------
Microsoft SQL Server 2005 Express - 8.00.760 (Intel X86)
      Dec 17, 2002 14:22:05
      Copyright © 1988-2003 Microsoft Corporation
      Desktop Engine on Windows NT
      5.0 (Build 2195: Service Pack 4)


(1 row affected)
1>quit
```

13 Use the **quit** command to exit the command-line utility.

14 Use the **OSQL command line** tool to locate the SQL Server 2005 Express instance.

The osql –L command shows the available instances. For example, if your computer name is MESSENGER, the instance name is MESSENGER\SQLEXPRESS.

15 Record the instance name from the previous step. You need the instance name later in this document.

16 Use the **osql command line interface** to verify if you can authenticate on your server instance. For example, if your

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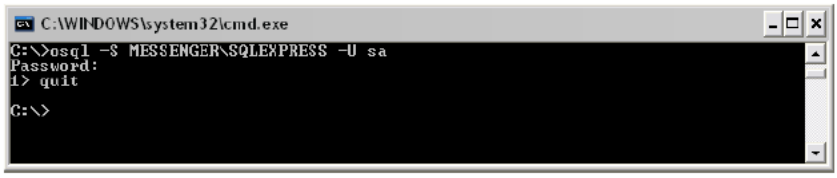
service instance is called MESSENGER\SQLEXPRESS, use the command **`osql -S MESSENGER\SQLEXPRESS -U sa`** to determine if you can authenticate with user sa and the password you assigned to that user, for example, sa.



--End--

Install SQL Server Management Studio Express

The SQL Server 2005 Express Edition features maintenance software, similar to the Enterprise Manager in SQL Server 2000. The software is called SQL Server Management Studio Express, and you can install it without paying a license fee to Microsoft.

Use the steps in the following procedure to install SQL Server Management Studio express.

Note: Although this procedure is optional, Nortel recommends you install this management software for maintenance and trouble shooting.

Procedure 20
Installing SQL Server Management Studio Express

Step	Action
1	Navigate on the CD-ROM directory to **\01 – Prerequisites\01.07 - Database engine\01.07.01 - SQL Server 2005 Express Edition\01.07.01.05 - SQL Server Management Studio Express**.
2	Double-click the file **SQLServer2005_SSMSEE.msi**.
3	When the warning shown in the following figure appears, click **Run**.

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Open File - Security Warning
Do you want to run this file?
Name: SQLServer2005_SSMSEE.msi
Publisher: Microsoft Corporation
Type: Windows Installer Package
From: E:\01 - Prerequisites\01.07 - Database engine\01....
Run
Cancel
While files from the Internet can be useful, this file type can potentially harm your computer. Only run software from publishers you trust. What's the risk?

The Install Wizard appears.

Microsoft SQL Server Management Studio Express Setup
Welcome to the Install Wizard for Microsoft SQL Server Management Studio Express
Setup helps you install, modify or remove Microsoft SQL Server Management Studio Express. To continue, click Next.
WARNING: This program is protected by copyright law and international treaties.
< Back
Next >
Cancel

4 Click **Next**.

The License Agreement appears.

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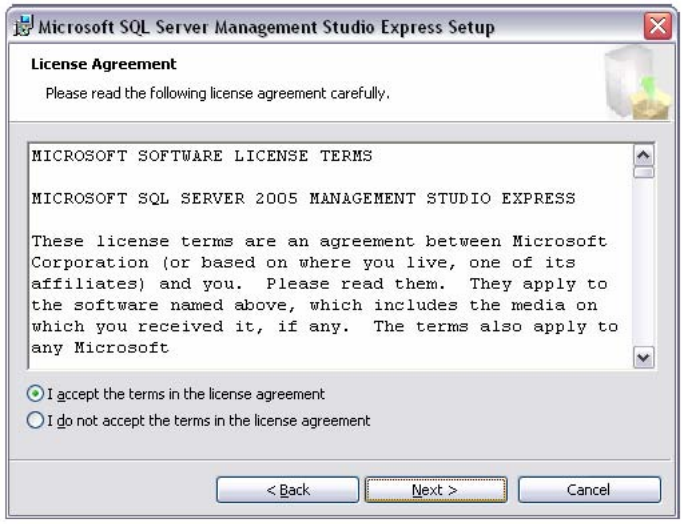
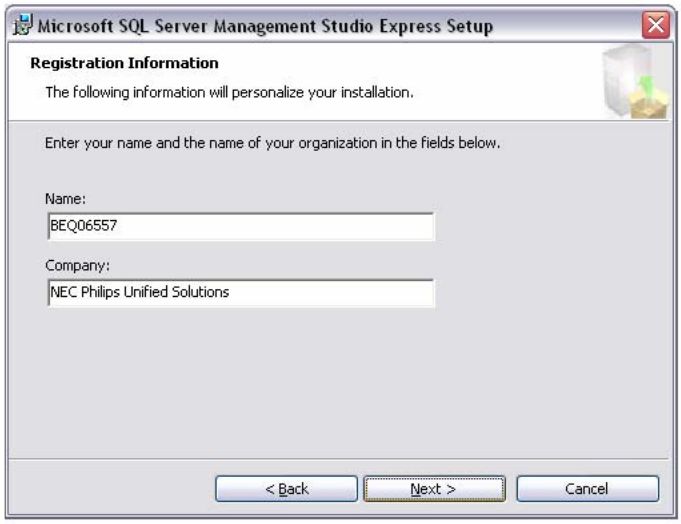

Microsoft SQL Server Management Studio Express Setup
License Agreement
Please read the following license agreement carefully.
MICROSOFT SOFTWARE LICENSE TERMS
MICROSOFT SQL SERVER 2005 MANAGEMENT STUDIO EXPRESS
These license terms are an agreement between Microsoft Corporation (or based on where you live, one of its affiliates) and you. Please read them. They apply to the software named above, which includes the media on which you received it, if any. The terms also apply to any Microsoft
I accept the terms in the license agreement
I do not accept the terms in the license agreement
< Back
Next >
Cancel

5 Read and select **I accept the terms in the license agreement**.

6 Click **Next**.

A Registration Information window appears.


Microsoft SQL Server Management Studio Express Setup
Registration Information
The following information will personalize your installation.
Enter your name and the name of your organization in the fields below.
Name:
BEQ06557
Company:
NEC Philips Unified Solutions
< Back
Next >
Cancel

7 Verify your name and company.

8 Click **Next**.

A Feature Selection window appears.

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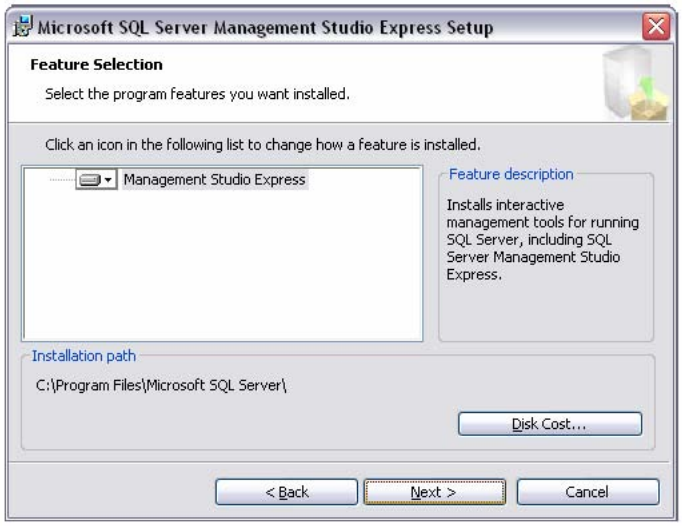
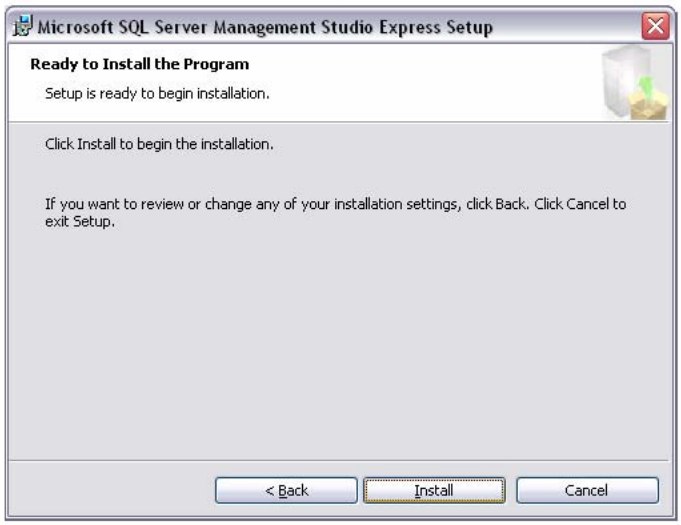

Microsoft SQL Server Management Studio Express Setup
Feature Selection
Select the program features you want installed.
Click an icon in the following list to change how a feature is installed.
Management Studio Express
Feature description
Installs interactive management tools for running SQL Server, including SQL Server Management Studio Express.
Installation path
C:\Program Files\Microsoft SQL Server\
Disk Cost...
< Back
Next >
Cancel

9 Click **Next**.

The Ready to Install the Program window appears.


Microsoft SQL Server Management Studio Express Setup
Ready to Install the Program
Setup is ready to begin installation.
Click Install to begin the installation.
If you want to review or change any of your installation settings, click Back. Click Cancel to exit Setup.
< Back
Install
Cancel

10 Click **Install**.

The following window appears.

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Microsoft SQL Server Management Studio Express Setup
Completing the Microsoft SQL Server Management Studio Express Setup
Setup has installed Microsoft SQL Server Management Studio Express successfully. Click Finish to exit.
< Back
Finish
Cancel

11 Click **Finish**.

12 Verify **SQL Server Management Studio Express** (optional).

- Navigate to **Start > Program Files > Microsoft SQL Server 2005 > SQL Server Management Studio Express >**.
  A progress window appears while Microsoft SQL Server Management Studio Express is configured. This takes a few minutes.
  When configuration is complete the following window appears.

- Next to Server name, select **MESSENGER\SQLEXPRESS** from the list.
- Choose **SQL Server Authentication**.
- Enter **sa** to login and enter the password **BEFMI@A31**.
- Check the box next to **Remember password** (optional).

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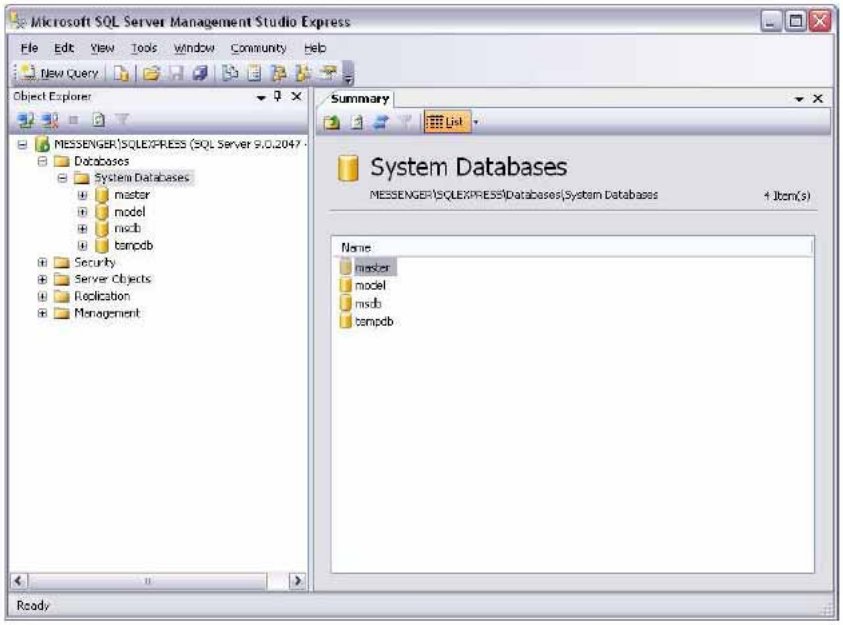
- Click **Connect** to authenticate the SQL Server 2005 Express. The following window appears.



- Exit the **SQL Server Management Studio Express**.

--End--

Restore Messenger DATA database

Use the steps in the following procedure to restore the Messenger_DATA database.

Procedure 21
Restoring Messenger DATA database

Step	Action
1	Copy the files **install.bat** and **Messenger_DATA.sql** from **01 – Prerequisites > 01.07 - Database engine > 01.07.01 - SQL Server 2005 Express Edition > 01.07.01.06 - Messenger_DATA to C:\Temp**.
2	Edit the **C:\Temp\install.bat** file. The following window appears.

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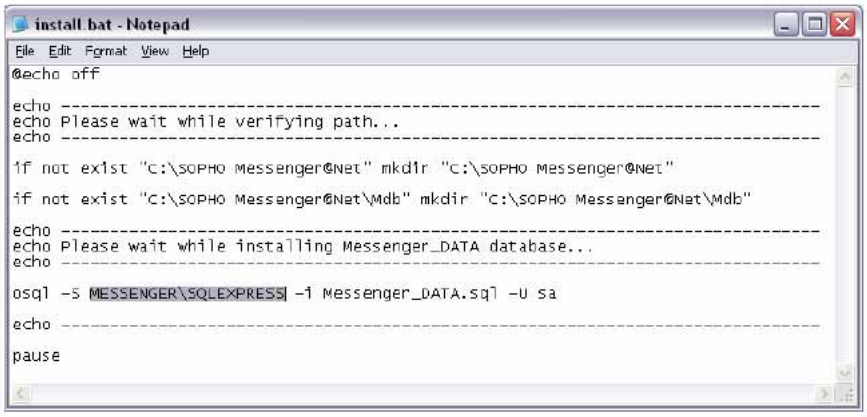
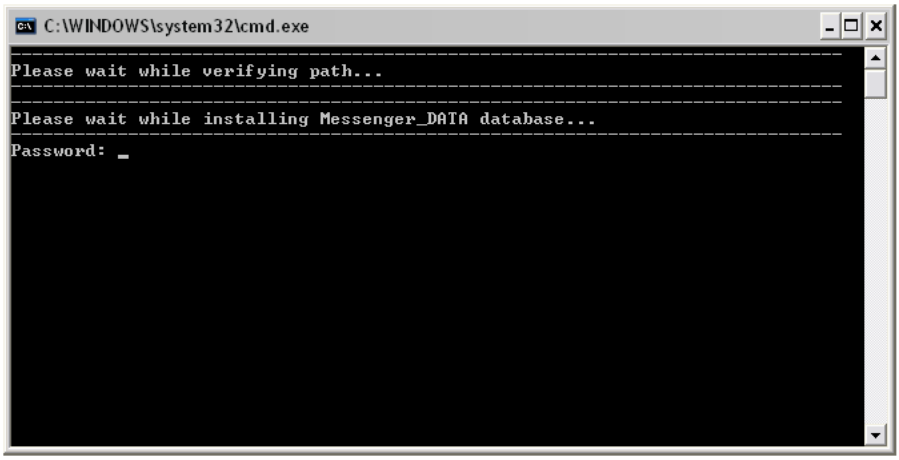

install.bat - Notepad
File Edit Format View Help
@echo off
echo --
echo Please wait while verifying path...
echo --
if not exist "C:\SOPHO Messenger@Net" mkdir "C:\SOPHO Messenger@Net"
if not exist "C:\SOPHO Messenger@Net\Mdb" mkdir "C:\SOPHO Messenger@Net\Mdb"
echo --
echo Please wait while installing Messenger_DATA database...
echo --
osql -S MESSENGER\SQLEXPRESS -i Messenger_DATA.sql -U sa
echo --
pause

3 If your server instance is not called MESSENGER\SQLEXPRESS, replace the MESSENGER\SQLEXPRESS with the value of your environment, for example, BEQ06557\SQLEXPRESS.

4 Save the install.bat in C:\Temp,

5 Double-click **install.bat**.

The following window appears.



6 Enter the password associated with account sa, for example BEFMI@A31.

7 Press **Enter**.

The following window appears to show the progress of the restore process.

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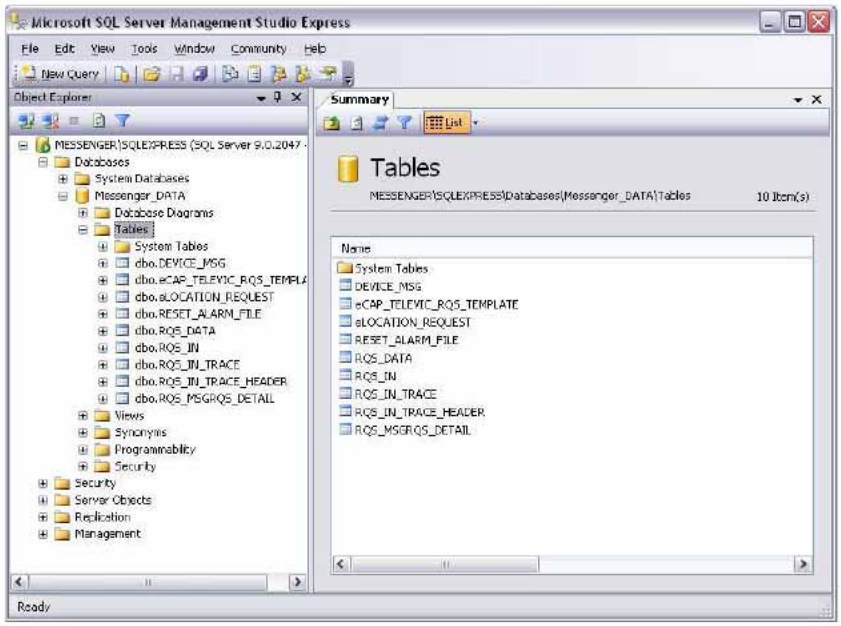
C:\WINDOWS\system32\cmd.exe
Please wait while verifying path...
Please wait while installing Messenger_DATA database...
Password:
Press any key to continue . . .

8 Use the **Microsoft SQL Server Management Studio Express** to verify existence of the Messenger_DATA database (optional).



--End--

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ATTENTION
As the SQL Server tends to expand the transaction log file, Nortel recommends that you use the steps in the following procedure.

In the following windows, the instance name is MESSENGER\SQLEXPRESS. Use the instance name of your environment.

Procedure 22
Reducing size of the transaction log file

Step	Action
1	To clean up the **transaction log**, open the command line and execute the OSQL tool. Print in the command line of this tool the offered command with appropriate parameters, including the instance name, user name, and password.

```
osql -S MESSENGER\SQLEXPRESS -d Messenger_Data -U sa
```

```
1> BACKUP LOG Messenger_Data WITH TRUNCATE_ONLY
2> go
1> DBCC SHRINKDATABASE (Messenger_Data)
2> go
3> exit
```

The following figure appears.

C:\WINNT\system32\cmd.exe
Microsoft Windows 2000 [Version 5.00.2195]
(C) Copyright 1985-2000 Microsoft Corp.
C:\>osql -S GROEN-NT62 -d Messenger_Data -U sa -P sa
1> BACKUP LOG Messenger_Data WITH TRUNCATE_ONLY
2> go
1> DBCC SHRINKDATABASE (Messenger_Data)
2> go
DbId FileId CurrentSize MinimumSize UsedPages EstimatedPages
7 2 640 640 640 640
(1 row affected)
DBCC execution completed. If DBCC printed error messages, contact your systen
administrator.

If DBCC command returns an error, ignore the error.

2	Change database model to **simple** (no use of transaction log).

```
Osql -S MESSENGER\SQLEXPRESS -d Messenger_Data -U sa
```

```
1> alter database Messenger_Data set recovery simple
2> go
3> exit
```

The following figure appears.

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Figure 4
Alter database model

--End--

Adjust the configuration

At a later stage, you must define the location of the Messenger_DATA database repository.

This is typically done using the eCONFIG configuration tool, by defining a connection string for the Messenger_DATA database on site configuration level. You can also use the eGRID tool, by selecting the database Messenger_CFG, table eKERNEL_SITE, and field CFG_Connectionstring_DATA_str.

The following is a sample configuration setting. The configuration setting indicates that the database is located on server MESSENGER\SQLEXPRESS, can be accessed with user sa and the password BEFMI@A31, and uses the catalog Messenger_DATA.

Figure 5
Sample configuration setting

```
Provider=SQLOLEDB.1;Persist Security Info=False;User
ID=sa;Password=philips;Initial Catalog=Messenger_DATA;Data
Source=MESSENGER\SQLEXPRESS
```


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Install PC - Step 2 - Nortel DECT Messenger

This chapter provides information on the following subjects:

- "Installing the DECT Messenger" (page 95)
- "General install - Installing Nortel DECT Messenger Templates" (page 102)

Before you start

Before installing DECT Messenger, complete all the prerequisite actions that are described in "General - Install PC" (page 11).

Note: DECT Messenger and all associated modules require the Nortel License Manager to be installed, and require a valid license key for the dongle to unlock the functionality. Refer to "Install PC - Step 1e - License Manager" (page 39) for the license manager installation procedure, and for more information, see the readme.txt file in the same directory.

Installing the DECT Messenger

Installation files are located on the CD-ROM in directory **\02 -** Nortel DECT Messenger.

Procedure 23
Install Nortel DECT Messenger

Step	Action
1	Start the **Setup Wizard**. • Open the directory **\02 - Nortel DECT Messenger\02.01 - Nortel DECT Messenger** on the CD-ROM. • Double-click the file: **SETUP_Messenger_R4.0.0_build_2008.04.23.exe**.

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Note 1: The name of the .EXE files vary depending on the release version. The file name can include a release level and build data. If more than one copy of the program is located in the directory, install the most recent version, unless instructed otherwise.

Note 2: The installation procedure assumes you are installing from a CD-ROM drive. This means the 02 - Nortel DECT Messenger resides in the root of the drive (typically drive D: or E:). Installation from a subdirectory or a network drive is not supported, and results in messages such as Could not find enough disk space for extracting files. If you must install from a network resource, share the directory and map the shared directory to a network drive, so the 02 - Nortel DECT Messenger directory resides in the root of the shared network drive.If you are not installing from a CD-ROM, CD image or shared drive, the InstallShield sometimes detects a path name that is too long, and the following warning is shown. Refer to the Note at the top of this page for information on how to avoid this unsupported environment. You can ignore the warning when there is at least 500MB free space on drive C:.

2 Confirm that you want to install Nortel DECT Messenger.

Click **Yes** to continue.

The Welcome window appears.

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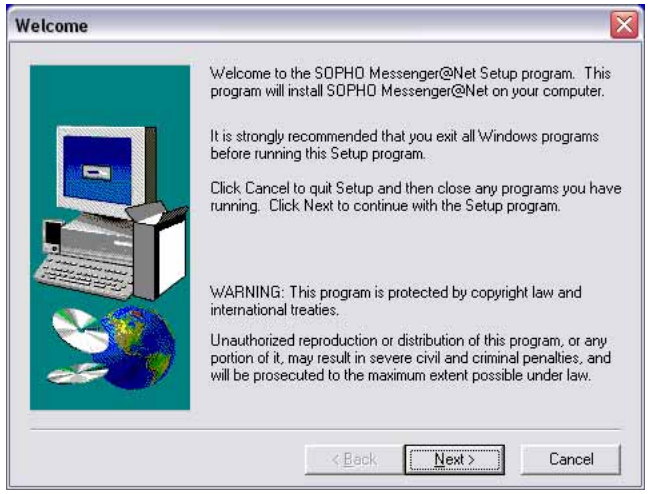
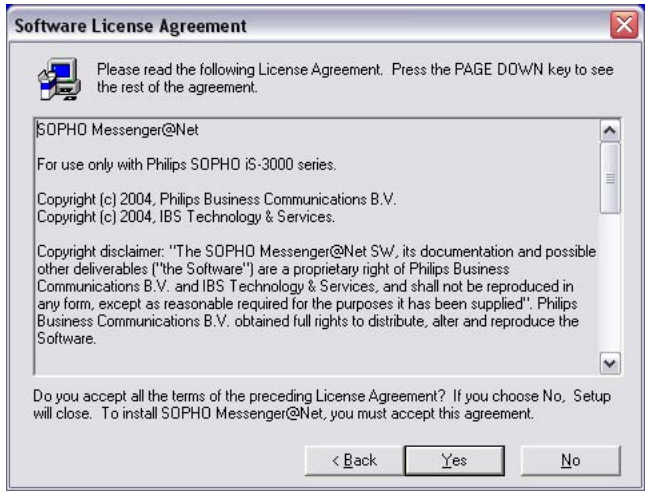

Welcome
Welcome to the SOPHO Messenger@Net Setup program. This program will install SOPHO Messenger@Net on your computer.
It is strongly recommended that you exit all Windows programs before running this Setup program.
Click Cancel to quit Setup and then close any programs you have running. Click Next to continue with the Setup program.
WARNING: This program is protected by copyright law and international treaties.
Unauthorized reproduction or distribution of this program, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under law.
< Back
Next >
Cancel

3 Click **Next** to continue.

The **Software License Agreement** window appears.


Software License Agreement
Please read the following License Agreement. Press the PAGE DOWN key to see the rest of the agreement.
SOPHO Messenger@Net
For use only with Philips SOPHO iS-3000 series.
Copyright (c) 2004, Philips Business Communications B.V.
Copyright (c) 2004, IBS Technology & Services.
Copyright disclaimer: "The SOPHO Messenger@Net SW, its documentation and possible other deliverables ("the Software") are a proprietary right of Philips Business Communications B.V. and IBS Technology & Services, and shall not be reproduced in any form, except as reasonable required for the purposes it has been supplied". Philips Business Communications B.V. obtained full rights to distribute, alter and reproduce the Software.
Do you accept all the terms of the preceding License Agreement? If you choose No, Setup will close. To install SOPHO Messenger@Net, you must accept this agreement.
< Back
Yes
No

4 Read the Software License Agreement and click **Yes** to accept the terms.

If you do not wish to accept the License Agreement, click **No** to cancel installation.

When you click Yes, the **User Information** window appears.

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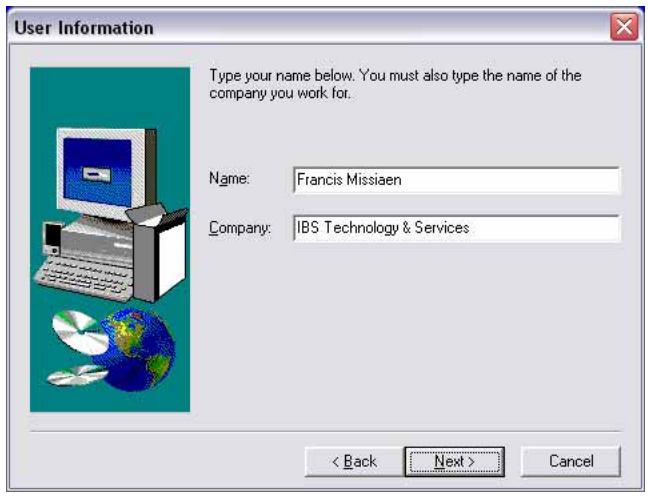
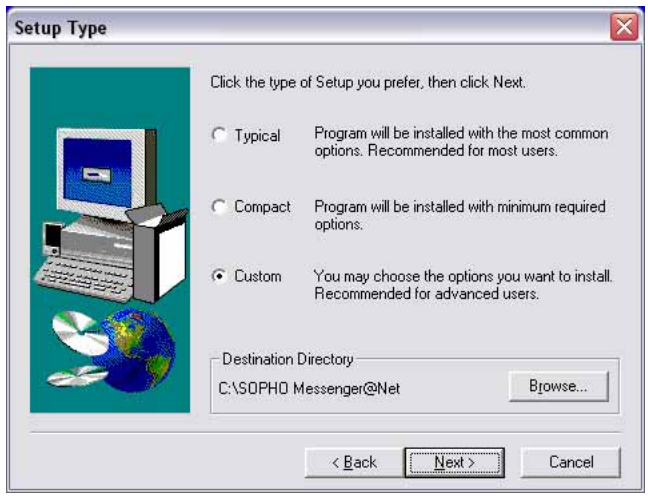


5 Verify the user information and press **Next** to continue.

The **Setup type** window appears.


Setup Type
Click the type of Setup you prefer, then click Next.
Typical
Program will be installed with the most common options. Recommended for most users.
Compact
Program will be installed with minimum required options.
Custom
You may choose the options you want to install. Recommended for advanced users.
Destination Directory
C:\SOPHO Messenger@Net
Browse...
< Back
Next >
Cancel

6 Select **Setup Type**.

On the **Setup Type** window, select one of: **Typical, Compact** or **Custom** setup.

ATTENTION
Do not alter the destination directory. Installing in a location other than the default C:\SOPHO Messenger@Net is technically possible, but is not supported or documented.

7 Choose **Custom** and leave all check boxes in their default condition.

8 Click **Next**.

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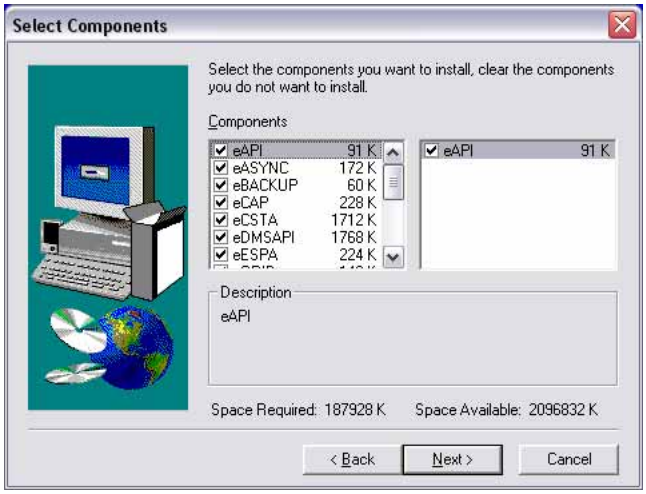
A custom installation installs more modules than you may need, but is the installation recommended by Nortel. The custom installation can also be used for future activation of modules.

The **Select Components** window appears.



If you choose **Custom**, all available components are installed unless you clear the check boxes next to some of the modules. All available components are eAPI, eASYNC, eCAP, eCSTA, eDMSAPI, eESPA, eGRID, eIO, eKERNEL, eLOCATION, eSMS, eSMTP, eSMTP_server, eSNMP, eTM; eTM_HA, eVBVOICE, eWEB and Web Administrator.

If you choose the **Typical** installation, all available components are installed including eAPI, eASYNC, eCAP, eDMSAPI, eESPA, eGRID, eIO, eKERNEL, eLOCATION, eSMS, eSMTP, eSMTP_server, eSNMP, eTM, eTM_HA, eVBVOICE, eWEB, and Web Administrator.

If you choose the **Compact** setup type, the following components are installed: eBACKUP, eCAP, eDMSAPI, eGRID, eKERNEL, and eTM.

9 Click **Next** to start the installation procedure.

The **Start copying files** window appears.

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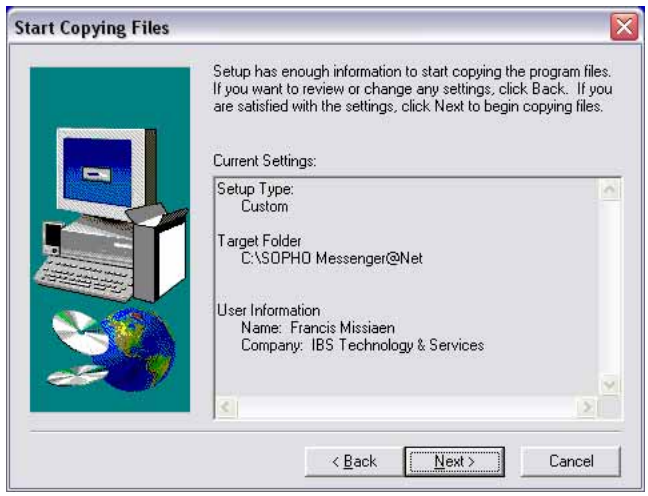
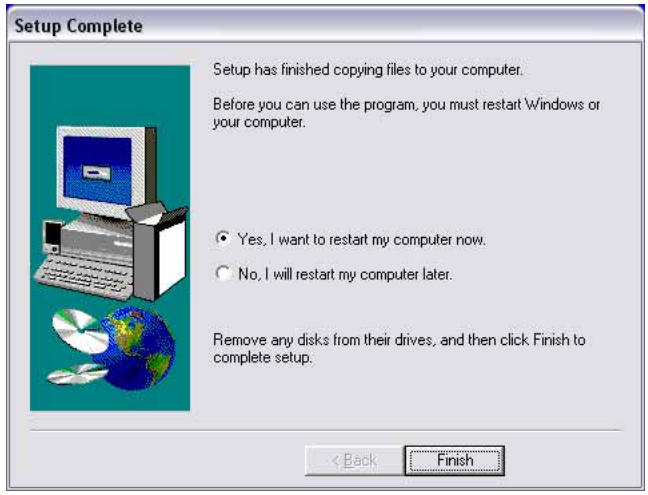

Start Copying Files
Setup has enough information to start copying the program files. If you want to review or change any settings, click Back. If you are satisfied with the settings, click Next to begin copying files.
Current Settings:
Setup Type:
Custom
Target Folder
C:\SOPHO Messenger@Net
User Information
Name: Francis Missiaen
Company: IBS Technology & Services
< Back
Next >
Cancel

When setup is complete, the following figure appears.


Setup Complete
Setup has finished copying files to your computer.
Before you can use the program, you must restart Windows or your computer.
Yes, I want to restart my computer now.
No, I will restart my computer later.
Remove any disks from their drives, and then click Finish to complete setup.
< Back
Finish

10 Follow the instructions in **Setup Complete** window.

11 Restart the computer.

--End--

Additional configuration

Once you complete all the steps in Procedure 23 “Install Nortel DECT Messenger” (page 95), DECT Messenger is installed. However, there are other steps that you must complete before you use the product. Return to “General - Install PC” (page 11), and complete the remaining steps.

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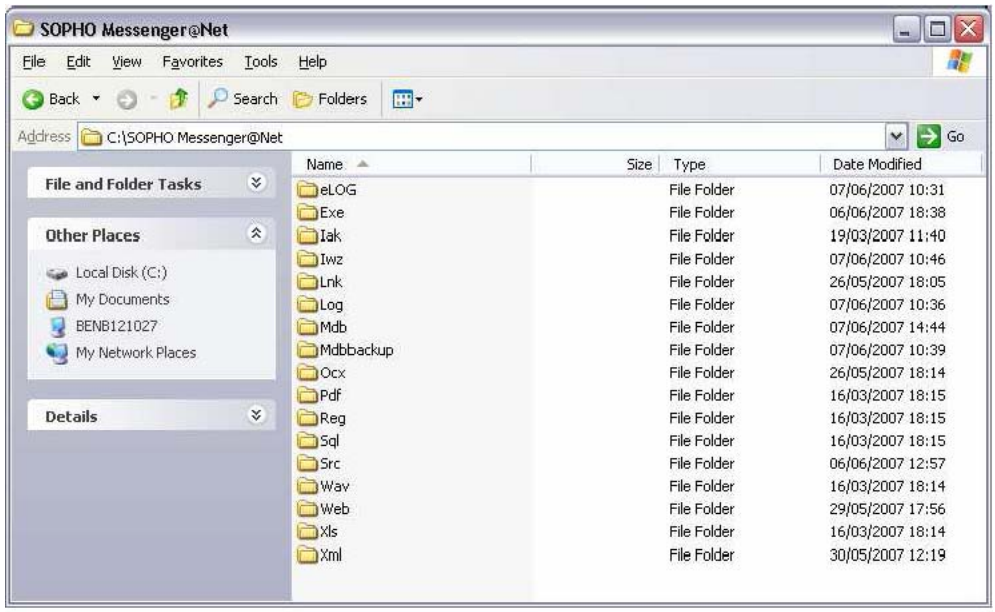
As a result of the installation procedure described in this chapter, a directory C:\SOPHO Messenger@Net is created, with a number of subdirectories and files. Additionally, some run time files, such as OCX and DLL files, are installed and registered.

Figure 6
SOPHO Messenger@Net directory


SOPHO Messenger@Net
File Edit View Favorites Tools Help
Back Search Folders
Address C:\SOPHO Messenger@Net
Go
File and Folder Tasks
Other Places
Local Disk (C:)
My Documents
BENB121027
My Network Places
Details
Name Size Type Date Modified
eLOG File Folder 07/06/2007 10:31
Exe File Folder 06/06/2007 18:38
Iak File Folder 19/03/2007 11:40
Iwz File Folder 07/06/2007 10:46
Lnk File Folder 26/05/2007 18:05
Log File Folder 07/06/2007 10:36
Mdb File Folder 07/06/2007 14:44
Mdbbackup File Folder 07/06/2007 10:39
Ocx File Folder 26/05/2007 18:14
Pdf File Folder 16/03/2007 18:15
Reg File Folder 16/03/2007 18:15
Sql File Folder 16/03/2007 18:15
Src File Folder 06/06/2007 12:57
Wav File Folder 16/03/2007 18:14
Web File Folder 29/05/2007 17:56
Xls File Folder 16/03/2007 18:14
Xml File Folder 30/05/2007 12:19

At this stage a default configuration is installed: C:\SOPHO Messenger@Net\Mdb\Messenger_CFG.MDB. In addition, shortcuts to the different processes are located in : C:\SOPHO Messenger@Net\Lnk

Perform further configuration with the module eGRID: C:\SOPHO Messenger@Net\Exe\eGRID.exe.

See "General install - Installing Nortel DECT Messenger Templates" (page 102) for information on the installation of additional template configurations you can use to meet your requirements and target configuration.

Launching the application

During configuration and testing, to launch modules, double-click the EXE-files located in the directory C:\SOPHO Messenger@Net\Exe and adjust the shortcut parameters.

You can also use and adjust the shortcuts located in C:\SOPHO Messenger@Net\Lnk directory or subdirectories.

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Once a configuration is finalized, Nortel recommends you use the Task Manager module (Module - eTM) to launch all processes. The eTM module then becomes the only module you start when you log on, for example, by placing a shortcut in the Startup group of Administrator. See Module – eTM in *DECT Messenger Installation and Configuration* (NN43120-301) volume 2 for more information.

The eGRID module has ability to generate the registry file that acts as repository for eTM. See “Module - eGRID” (page 389) for more information.

General install - Installing Nortel DECT Messenger Templates

The configuration DECT Messenger quite complex. To assist you with configuration, a number of sample configurations are available.

The next procedure explains how to install and activate the DECT Messenger templates.

Procedure 24
Installing shortcuts to templates

Step	Action
1	Locate the DECT Messenger templates on the CD-ROM in the directory **\02 - Nortel DECT Messenger\02.02 - Nortel DECT Messenger - Templates**.
2	Double-click the file **SETUP_Messenger_Templates_R4.0.0_build_2008.04.23.exe** If a Security warning window appears, click **Run**.

Open File - Security Warning
The publisher could not be verified. Are you sure you want to run this software?
Name: ...er@Net_Templates_R4.0.0_build_2007.06.06.exe
Publisher: Unknown Publisher
Type: Application
From: E:\02 - SOPHO Messenger@Net\02.02 - SOPHO M...
Run
Cancel
This file does not have a valid digital signature that verifies its publisher. You should only run software from publishers you trust.
How can I decide what software to run?

The **InstallShield Self-extracting EXE** window appears.

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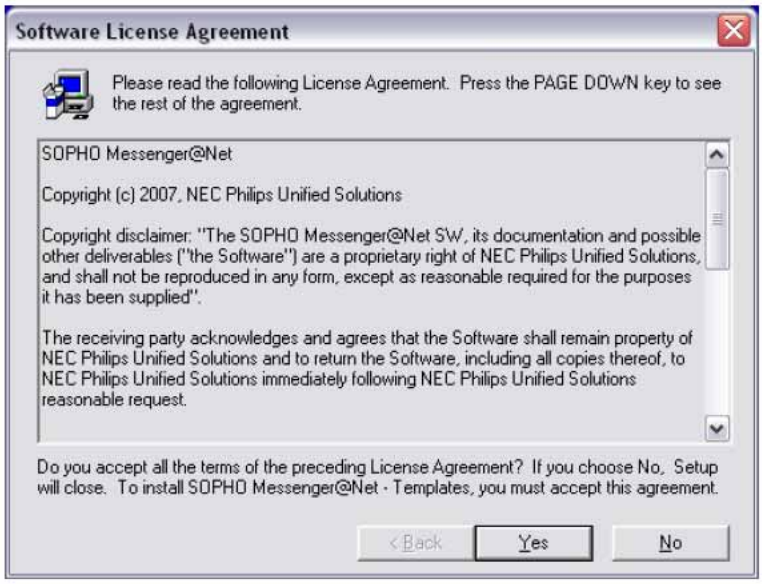
3 Click **Yes**.

The Software License Agreement window appears.


Software License Agreement
Please read the following License Agreement. Press the PAGE DOWN key to see the rest of the agreement.
SOPHO Messenger@Net
Copyright (c) 2007, NEC Philips Unified Solutions
Copyright disclaimer: "The SOPHO Messenger@Net SW, its documentation and possible other deliverables ("the Software") are a proprietary right of NEC Philips Unified Solutions, and shall not be reproduced in any form, except as reasonable required for the purposes it has been supplied".
The receiving party acknowledges and agrees that the Software shall remain property of NEC Philips Unified Solutions and to return the Software, including all copies thereof, to NEC Philips Unified Solutions immediately following NEC Philips Unified Solutions reasonable request.
Do you accept all the terms of the preceding License Agreement? If you choose No, Setup will close. To install SOPHO Messenger@Net - Templates, you must accept this agreement.
< Back
Yes
No

4 Read the **License Agreement** and click **Yes** to accept

The **Start Copying Files** window appears.

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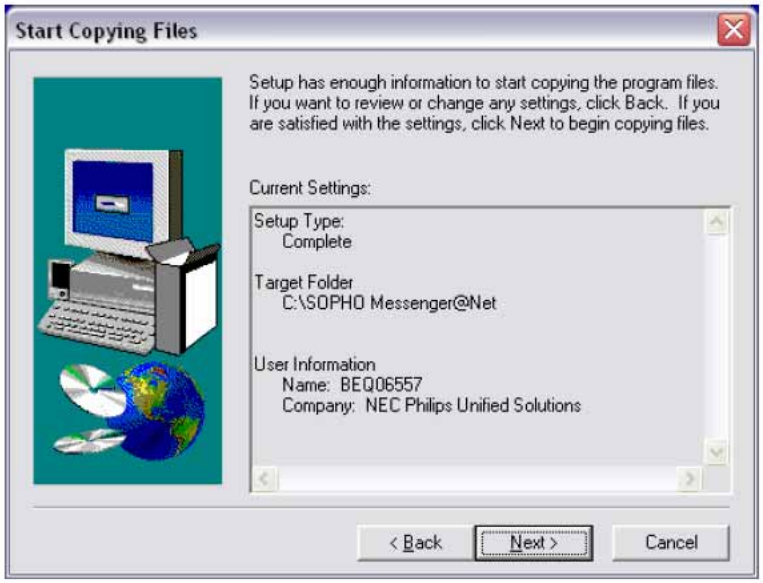
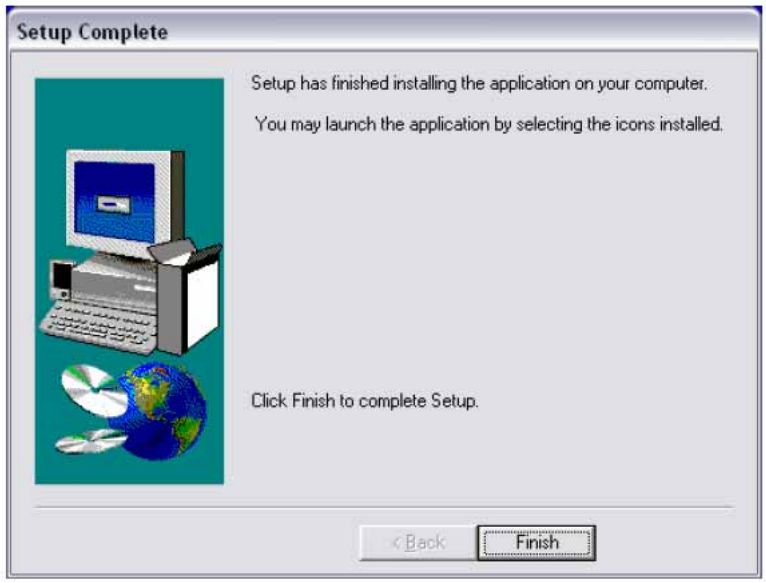

Start Copying Files
Setup has enough information to start copying the program files. If you want to review or change any settings, click Back. If you are satisfied with the settings, click Next to begin copying files.
Current Settings:
Setup Type:
Complete
Target Folder
C:\SOPHO Messenger@Net
User Information
Name: BEQ06557
Company: NEC Philips Unified Solutions
< Back
Next >
Cancel

5 Click **Next** to continue.

The Setup Complete window appears.


Setup Complete
Setup has finished installing the application on your computer.
You may launch the application by selecting the icons installed.
Click Finish to complete Setup.
< Back
Finish

6 When the setup is complete, click **Finish**.

7 Open Explorer and navigate to the directory **C:\SOPHO Messenger@Net\Lnk**.

8 Highlight the directory **R4.0 – SOPHO Messenger@Net**.

9 Drag the directory to Windows **Start** on the bottom left corner of your desktop.

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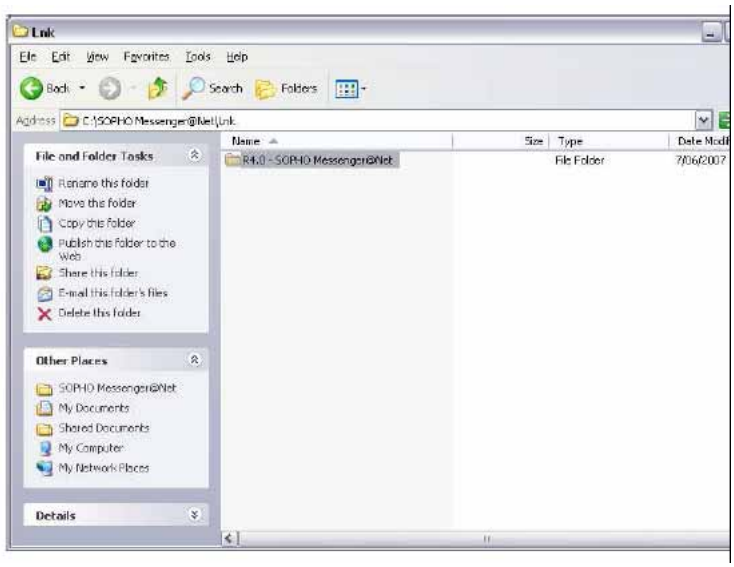
The **C:\SOPHO Messenger@Net\Lnk** window appears.



10 Click **Start > R4.0 SOPHO Messenger@Net > Templates**.

You see a number of templates appear.

--End--

Technical information

The templates consist of two parts:

- a Messenger_CFG.MDB database
- Shortcuts

Messenger_CFG.MDB

The template configuration files reside in the directory structure shown in the following figure. The contents can vary depending on what is shipped on the CD-ROM image, and can be extended with additional configuration templates.

The following figure shows that 9 template configurations are installed. The directory structure indicates the contents of the template.

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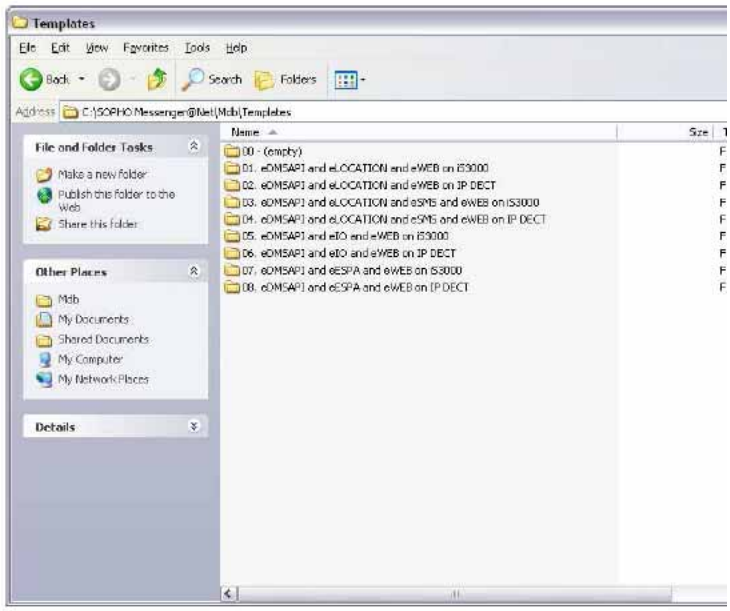
Figure 7
Messenger_CRF.MDB database


Templates
File Edit View Favorites Tools Help
Back Search Folders
Address C:\SOPHO Messenger@Net\Mdb\Templates
File and Folder Tasks
Make a new folder
Publish this folder to the Web
Share this folder
Other Places
Mdb
My Documents
Shared Documents
My Computer
My Network Places
Details
Name
Size
00 - (empty)
01. eDMSAPI and eLOCATION and eWEB on IS3000
02. eDMSAPI and eLOCATION and eWEB on IP DECT
03. eDMSAPI and eLOCATION and eSMS and eWEB on IS3000
04. eDMSAPI and eLOCATION and eSMS and eWEB on IP DECT
05. eDMSAPI and eIO and eWEB on IS3000
06. eDMSAPI and eIO and eWEB on IP DECT
07. eDMSAPI and eESPA and eWEB on IS3000
08. eDMSAPI and eESPA and eWEB on IP DECT

Use the following procedure to activate a template.

Procedure 25
Activating a template

Step	Action
1	Navigate to the directory where a template file is stored. For example, in the following figure, a configuration with eDMSAPI, eESPA, and eWEB is shown.

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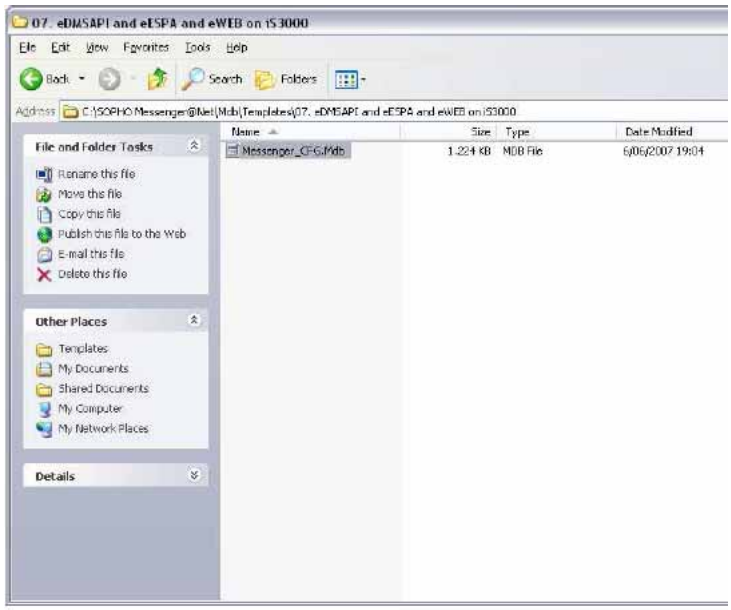

2 Highlight **Messenger_CFG.MDB**.

3 Right click **Copy**.

4 Navigate to directory **C:\SOPHO Messenger@Net\Mdb**

5 Choose **Paste**.

6 Replace the existing Messenger_CFG.MDB with the pasted configuration file.

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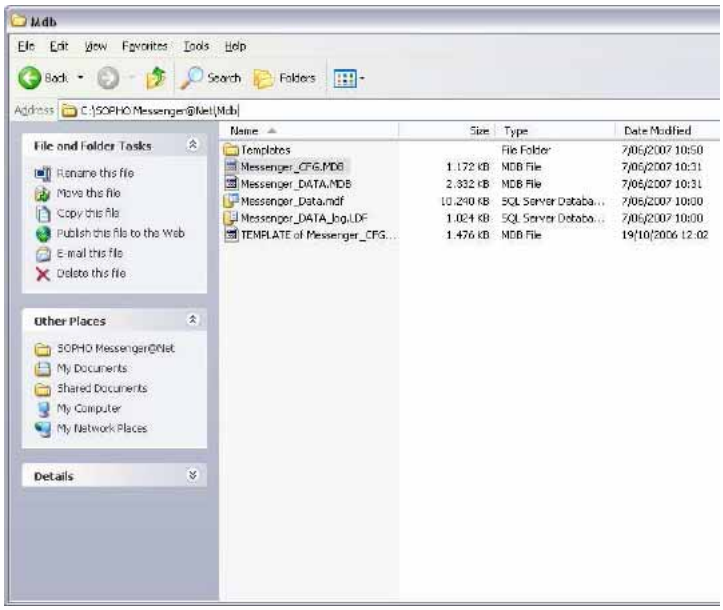

Note: The database file Messenger_CFG.mdb may not be in use when you want to delete it, overwrite it, restore it or replace it with a template database. There are four software modules that can use or lock the database: eKERNEL, eCONFIG, eGRID, and eWEB.

--End--

Shortcuts

You can navigate to Start > R4.0 – SOPHO Messenger@Net > Templates to find the appropriate shortcuts for the imported configuration.

General remarks

In the templates, a working configuration is provided.

eDMSAPI

For traditional DECT systems, use the IP address of the DMC relay card. You can change the configuration with eGRID in table eDMSAPI, or use the eCONFIG maintenance tool.

For SIP DECT systems, use the IP address of the DAP Controller PC, 192.16.7.13. You can change the configuration with eGRID in table eDMSAPI, or use the eCONFIG maintenance tool.

eLOCATION

eLOCATION is applicable only to SIP DECT systems. Use the IP address of the DAP Controller PC, 172.16.7.13. You can change the configuration with eGRID in table eLOCATION, or use the eCONFIG maintenance tool.

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eESPA

The eESPA is configured for Messenger to be slave on address 2. Therefore, the remote party is master (control station) on address 1. The implementation is manufacturer eESPA model VSK, which is compatible with the majority of ESPA 4.4.4 implementations.

eIO

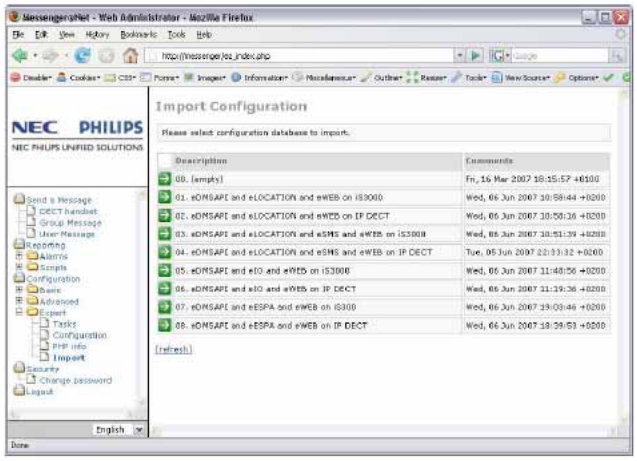
Configure eIO with 1x FP-AI-1000, 1x FP-DI-330, and 1x FP-DO_401.

The Templates are small configurations featuring only one DECT or one GSM, or one DECT and one GSM.

Web administrator

For the module Web Administrator, you can import the templates through the Configuration > Expert > Import menu structure. You need sufficient authorization and the Messenger_CFG.MDB may not be in use. Refer to the Module – Web Administrator in *DECT Messenger Installation and Configuration* (NN43120-301) volume 2 for more information.

Figure 8
Web administrator



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Install PC - Step 3 - National Instruments

This chapter provides information on the following subjects:

- "Installing the FieldPoint Explorer software" (page 111)
- "Installing DataSocket 4.0" (page 116)
- "Launching FieldPoint Explorer" (page 121)
- "Installing latest firmware" (page 136)
- "Using the eIO module" (page 144)
- "Accessing troubleshooting resources" (page 146)

This chapter describes the installation procedure of modules that are related to the eIO component of Nortel DECT Messenger. You can skip this chapter if you do not plan use the eIO module.

> ***Note:*** This release of DECT Messenger provides the latest versions available for FieldPoint Software Firmware and OPC Server. If you are upgrading an existing configuration, Nortel recommends first removing the previous versions.

Installing the FieldPoint Explorer software

The FieldPoint Explorer is a program provided by National Instruments, which is required to detect and configure the connected distributed I/O modules.

Procedure 26
National Instruments FieldPoint Software 3.0.2 (Build 177)

Step	Action
1	Launch the **Autorun.exe**. The software is located in the CD-ROM directory **\03 - National Instruments\03.02 – DataSocket 4.0**. Double-click the **Autorun.exe** file to start installing.

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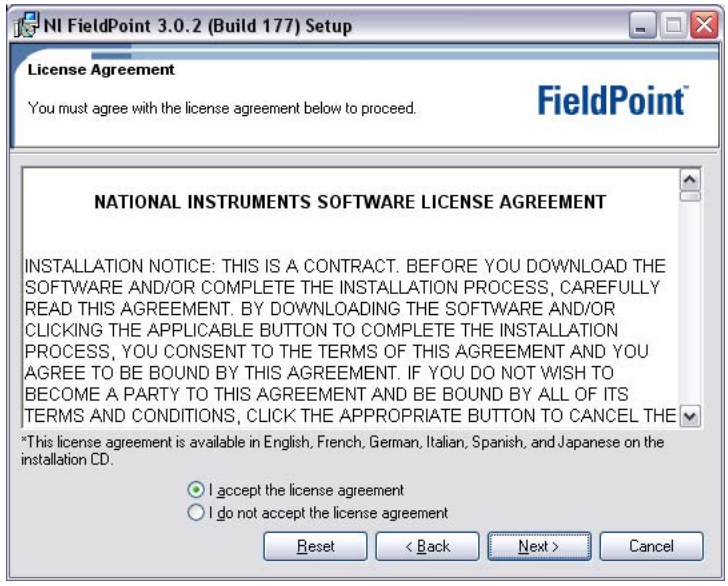
2 Review the Welcome message, and continue with the installation.

Click **Next** to continue.

NI FieldPoint 3.0.2 (Build 177) Setup
FieldPoint
Welcome to the NI FieldPoint 3.0.2 Installation Wizard
It is strongly recommended that you exit all Windows programs before running this setup program.
Click Cancel to quit the setup program, then close any programs you have running. Click Next to continue the installation.
WARNING: This program is protected by copyright law and international treaties.
Unauthorized reproduction or distribution of this program, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under law.
< Back
Next >
Cancel

3 Accept the **License Agreement**.

Read the License Agreement and click **Next** to continue.


NI FieldPoint 3.0.2 (Build 177) Setup
License Agreement
You must agree with the license agreement below to proceed.
FieldPoint
NATIONAL INSTRUMENTS SOFTWARE LICENSE AGREEMENT
INSTALLATION NOTICE: THIS IS A CONTRACT. BEFORE YOU DOWNLOAD THE SOFTWARE AND/OR COMPLETE THE INSTALLATION PROCESS, CAREFULLY READ THIS AGREEMENT. BY DOWNLOADING THE SOFTWARE AND/OR CLICKING THE APPLICABLE BUTTON TO COMPLETE THE INSTALLATION PROCESS, YOU CONSENT TO THE TERMS OF THIS AGREEMENT AND YOU AGREE TO BE BOUND BY THIS AGREEMENT. IF YOU DO NOT WISH TO BECOME A PARTY TO THIS AGREEMENT AND BE BOUND BY ALL OF ITS TERMS AND CONDITIONS, CLICK THE APPROPRIATE BUTTON TO CANCEL THE
*This license agreement is available in English, French, German, Italian, Spanish, and Japanese on the installation CD.
I accept the license agreement
I do not accept the license agreement
Reset
< Back
Next >
Cancel

4 Review the information provided, and continue with the installation.

Click **Next** to continue.

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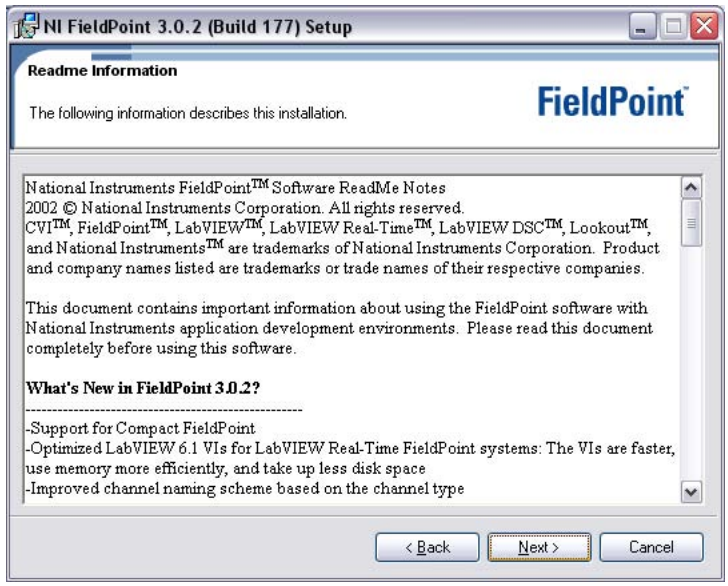
NI FieldPoint 3.0.2 (Build 177) Setup
Readme Information
The following information describes this installation.
FieldPoint
National Instruments FieldPoint™ Software ReadMe Notes
2002 © National Instruments Corporation. All rights reserved.
CVI™, FieldPoint™, LabVIEW™, LabVIEW Real-Time™, LabVIEW DSC™, Lookout™, and National Instruments™ are trademarks of National Instruments Corporation. Product and company names listed are trademarks or trade names of their respective companies.
This document contains important information about using the FieldPoint software with National Instruments application development environments. Please read this document completely before using this software.
What's New in FieldPoint 3.0.2?
-Support for Compact FieldPoint
-Optimized LabVIEW 6.1 VIs for LabVIEW Real-Time FieldPoint systems: The VIs are faster, use memory more efficiently, and take up less disk space
-Improved channel naming scheme based on the channel type
< Back
Next >
Cancel

5 Select the install location.

Click **Next** to accept the default settings and continue with the installation.

NI FieldPoint 3.0.2 (Build 177) Setup
Destination Folder
Select a folder where the application will be installed.
FieldPoint
The Wise Installation Wizard will install the files for NI FieldPoint 3.0.2 in the following folder.
To install into a different folder, click the Browse button, and select another folder.
You can choose not to install NI FieldPoint 3.0.2 by clicking Cancel to exit the Wise Installation Wizard.
Destination Folder
C:\Program Files\National Instruments\FieldPoint\
Browse
< Back
Next >
Cancel

6 Select the components to install.

Click **Next** to accept the default settings and continue with the installation.

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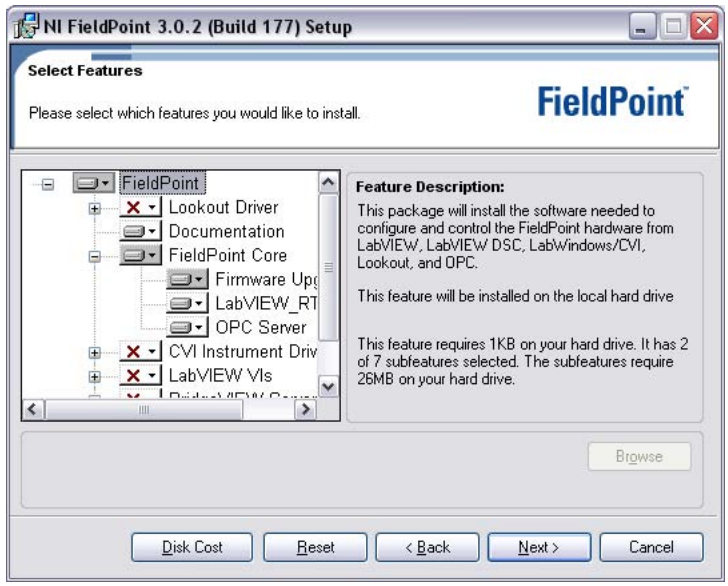
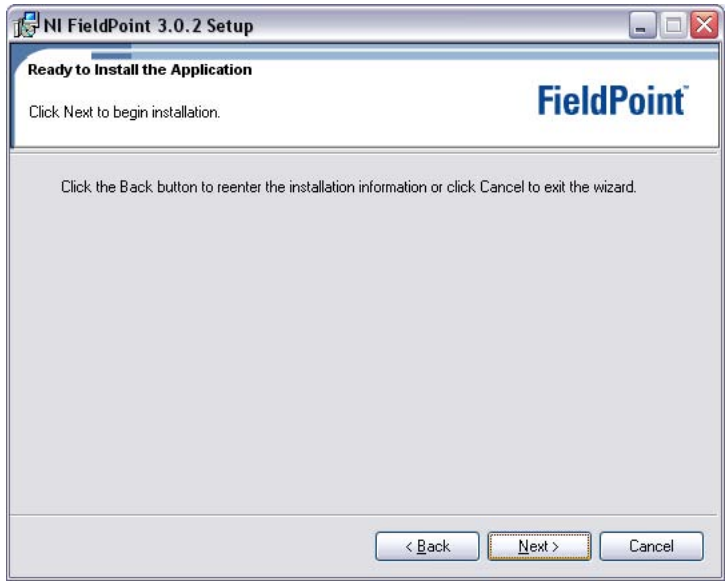

NI FieldPoint 3.0.2 (Build 177) Setup
Select Features
Please select which features you would like to install.
FieldPoint
FieldPoint
Lookout Driver
Documentation
FieldPoint Core
Firmware Up
LabVIEW_RT
OPC Server
CVI Instrument Driv
LabVIEW VIs
Feature Description:
This package will install the software needed to configure and control the FieldPoint hardware from LabVIEW, LabVIEW DSC, LabWindows/CVI, Lookout, and OPC.
This feature will be installed on the local hard drive
This feature requires 1KB on your hard drive. It has 2 of 7 subfeatures selected. The subfeatures require 26MB on your hard drive.
Browse
Disk Cost
Reset
< Back
Next >
Cancel

7 Begin copying files.

Click **Next** to install the software.


NI FieldPoint 3.0.2 Setup
Ready to Install the Application
Click Next to begin installation.
FieldPoint
Click the Back button to reenter the installation information or click Cancel to exit the wizard.
< Back
Next >
Cancel

8 Acknowledge the completion of the installation.

Click **Finish**.

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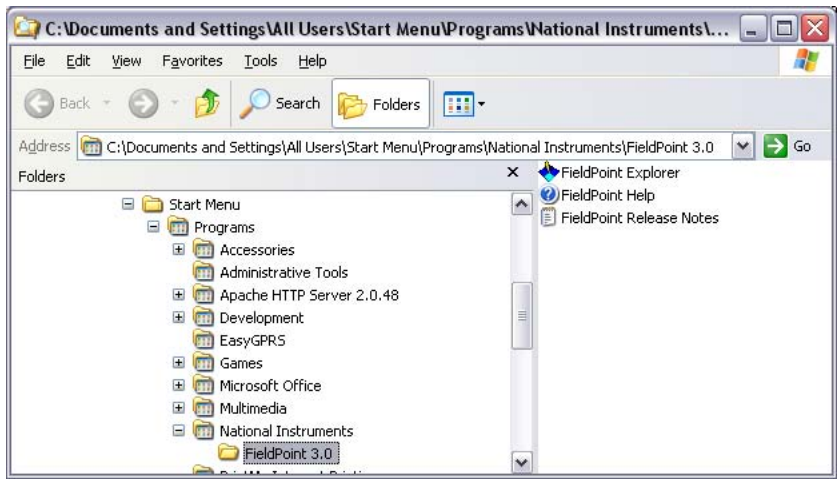
9 Open the **FieldPoint Explorer** folder.

Find the shortcut **FieldPoint 3.0** in the National Instruments group of the Program Files, as shown in the following illustration:



10 Launch **FieldPoint Explorer**.

Double-click on the **FieldPoint Explorer** icon.

The **What's New** message box appears, as follows.

Click **OK**.

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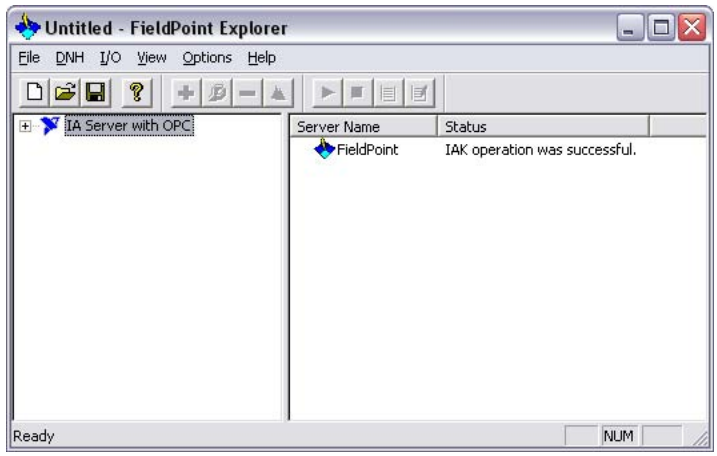
What's New in FieldPoint 3.0.2
New features in FieldPoint 3.0.2 CD:
- Support for Compact FieldPoint.
- Optimized LabVIEW 6.1 VIs for LabVIEW Real-Time FieldPoint systems
The VIs are faster, memory efficient, and smaller in size.
- New default channel naming scheme based on channel type
OK

The FieldPoint Explorer window appears.



--End--

Installing DataSocket 4.0

This is a program that is required to communicate between the eIO module of DECT Messenger and the connected National Instruments distributed I/O modules.

Procedure 27
Install DataSocket 4.0

Step	Action
1	Begin installation. The software is shipped on the CD-ROM and is located in the directory **\03 - National Instruments\03.02 – DataSocket 4.0**. Double-click the **Setup.exe** file to start installing.

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2 Read the Welcome information, and continue with the installation.

Click **Next** to continue.

NI DataSocket 4.0 Setup
Welcome to the NI DataSocket 4.0 Installation Wizard
It is strongly recommended that you exit all Windows programs before running this setup program.
Click Cancel to quit the setup program, then close any programs you have running. Click Next to continue the installation.
WARNING: This program is protected by copyright law and international treaties.
Unauthorized reproduction or distribution of this program, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under law.
< Back
Next >
Cancel

3 Read and accept the **License Agreement**.

Read the License Agreement, and click **Next** to continue.

NI DataSocket 4.0 Setup
License Agreement
You must agree with the license agreement below to proceed.
SCROLL DOWN TO VIEW THIS AGREEMENT IN ENGLISH, ITALIAN, FRENCH, SPANISH, OR GERMAN.
NATIONAL INSTRUMENTS SOFTWARE LICENSE AGREEMENT
NOTICE TO USER: THIS IS A CONTRACT. BEFORE YOU CLICK ON THE "YES" BUTTON BELOW AND COMPLETE THE INSTALLATION PROCESS, CAREFULLY READ THIS AGREEMENT. BY CLICKING THE "YES" BUTTON, YOU CONSENT TO THE TERMS OF THIS AGREEMENT AND YOU AGREE TO BE BOUND BY THIS AGREEMENT. IF YOU DO NOT WISH TO BECOME A PARTY TO THIS AGREEMENT AND BE BOUND
I accept the license agreement
I do not accept the license agreement
Wise Installation Wizard®
Reset
< Back
Next >
Cancel

4 Enter user information.

Enter the user information, and click **Next**.

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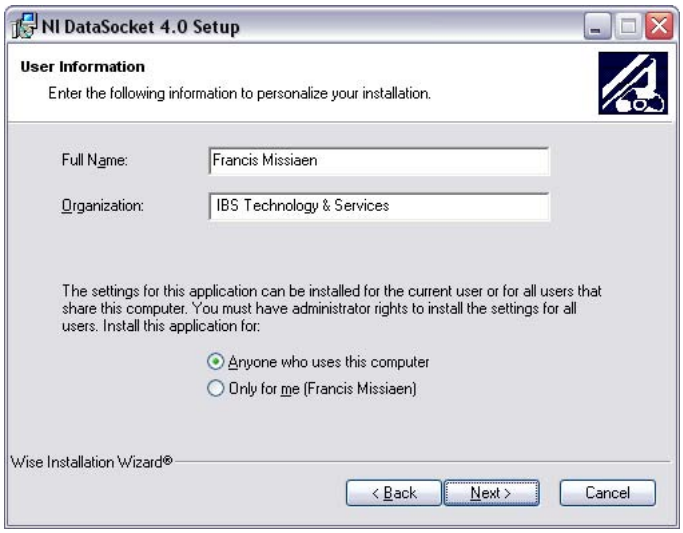
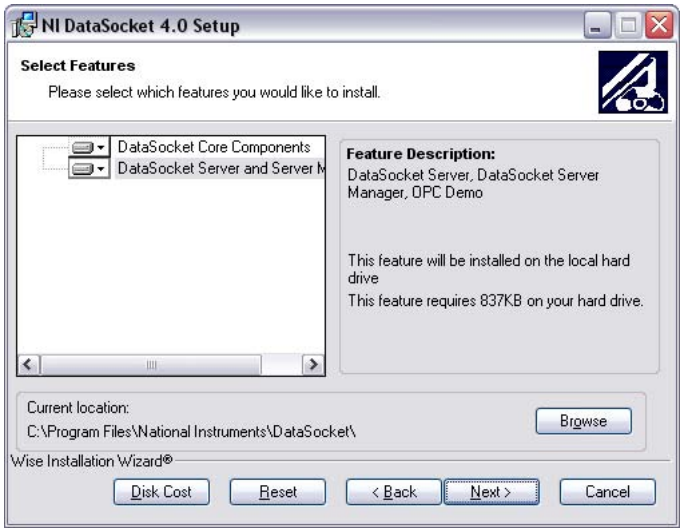

NI DataSocket 4.0 Setup
User Information
Enter the following information to personalize your installation.
Full Name:
Francis Missiaen
Organization:
IBS Technology & Services
The settings for this application can be installed for the current user or for all users that share this computer. You must have administrator rights to install the settings for all users. Install this application for:
Anyone who uses this computer
Only for me (Francis Missiaen)
Wise Installation Wizard®
< Back
Next >
Cancel

5 Select Features.

Click **Next** to accept the default settings and continue with the installation.



6 Begin copying files.

Click **Next** to install the software.

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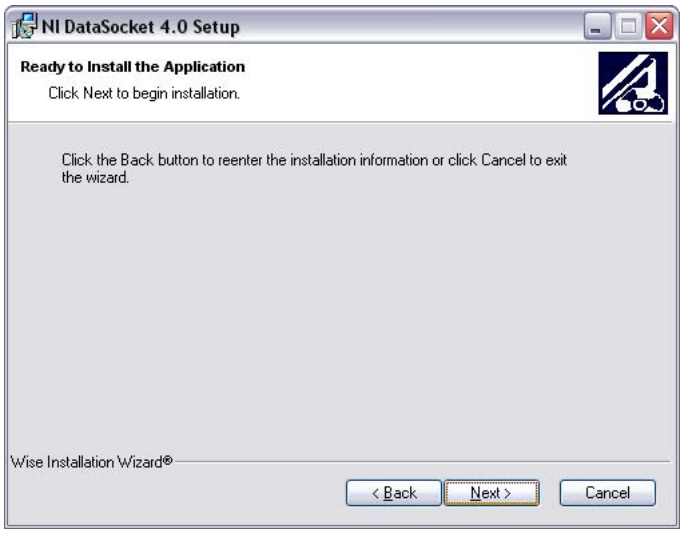
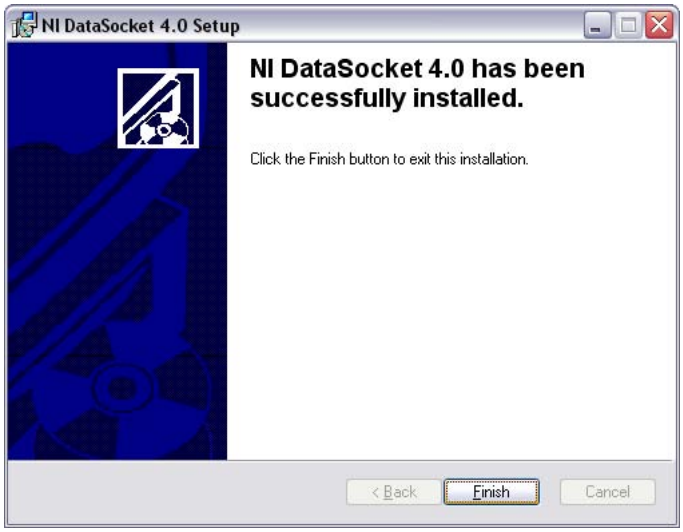

NI DataSocket 4.0 Setup
Ready to Install the Application
Click Next to begin installation.
Click the Back button to reenter the installation information or click Cancel to exit the wizard.
Wise Installation Wizard®
< Back
Next >
Cancel

7 Acknowledge the completion of the installation.

Click **Finish**.



8 Verify the shortcuts.

Check the **Start** menu to ensure that DataSocket shortcuts are now available, as shown in following figure.

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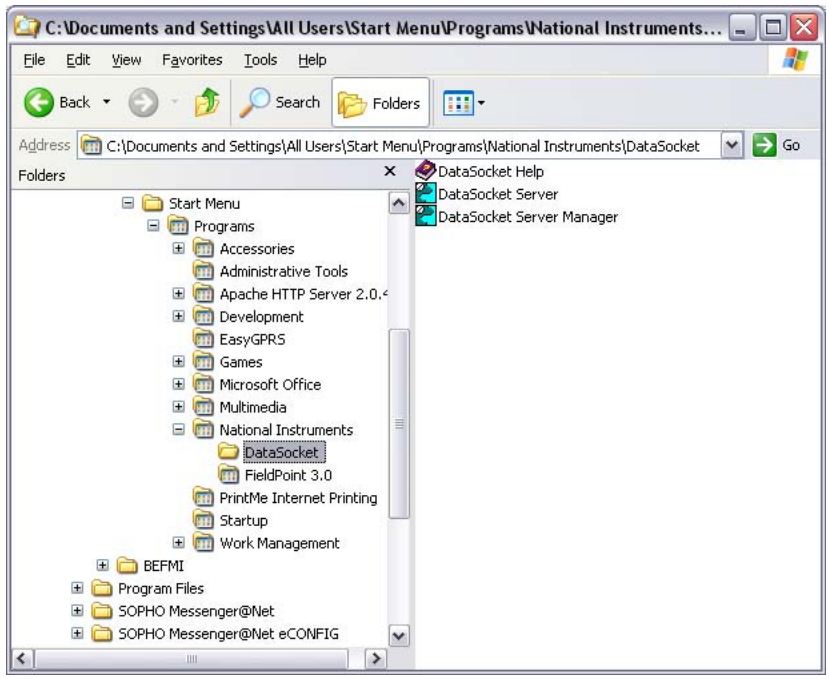
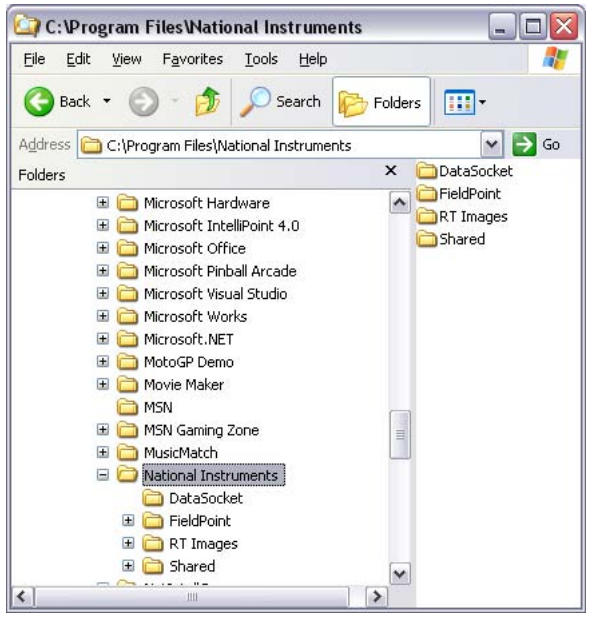


9 Verify the Program installation.

You can access the DataSocket shortcuts in the National Instruments group of the Program Files, as shown in the following illustration.



--End--

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Launching FieldPoint Explorer

Connect the hardware modules.

Important notes

Note that DECT Messenger has the following limitations:

- A single eIO instance can handle communications through either a FP-1000 module (RS-232) or a FP-1600 module (Ethernet). So for each FP-1000 or FP-1600, you need an instance of an eIO module.
- DECT Messenger supports the connection of only one eIO module. While some environments are known to be stable with more than one eIO module attached to a DECT Messenger, this is not officially supported by the authors of the eIO module. Contact Nortel product support before attaching more than one eIO.
- The eIO instance that handles an FP-1000 or FP-1600 can connect to other modules, such as FP-1001 and FP-1601, to build a tree-structure. The string can attach FP-AI-100, DP-DI-300, FP-DI-301, FP-DI-330, and FP-DO-401 modules.

  Note: DECT Messenger eIO is designed to support a maximum of eight modules attached to an eIO instance. Connecting more that eight modules is possible; however, because eIO can only handle eight modules, the remaining modules are non operational from the perspective of DECT Messenger.

At this stage, you must decide whether to use FP-1000 or FP-1600 to connect the eIO instance. The following sections provide examples of environments using FP-1000 and FP-1600, as follows:

- “Example 1: sample environment using FP-1000 module” (page 121)
- “Example 2: sample environment using FP-1600 module” (page 131)

Example 1: sample environment using FP-1000 module

Note: Consult the National Instruments web site at http://www.ni.com to obtain more information on installing and configuring the distributed I/O modules.

The following four tables provide configuration examples for a sample environment using FP-1000 module, as follows:

- Table 2 "Example 1a - FP-1000 module - Connect hardware modules" (page 122)
- Table 3 "Example 1b - FP-1000 module - Adjust module configuration" (page 124)

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- Table 4 "Example 1c - FP-1000 module - Adjust contact configuration" (page 128)
- Table 5 "Example 1d - FP-1000 module - Save configuration" (page 131)

Table 2
Example 1a - FP-1000 module - Connect hardware modules

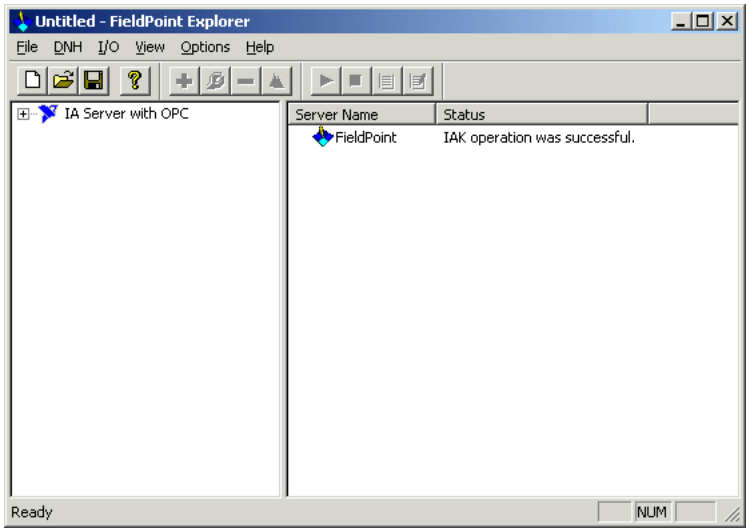
Step	Action
1	Attach the modules and power supply.
	• Attach the available modules (FP-AI-100, DP-DI-300, FP-DI-301, FP-DI-330, FP-DO-401) to the FP-1000 controller. • Attach the power supply to the FP-1000 module. If connected correctly, the power and ready lights on all modules show a green LED.
2	Connect the serial cable.
	• Look for an available COM port on the PC, and determine the resource name. This example uses COM01 port. • Connect the DB-9 serial cable to the selected COM port. ***Note:*** Refer to the FP-1000 documentation for more information on setting baud rate and address on the module. In the example, the factory default settings are used.
3	Launch the FieldPoint Explorer.
	Click **Start** and choose **Programs > National Instruments > FieldPoint 3.0 > FieldPoint Explorer**. 
4	Add a comm resource.

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Table 2
Example 1a - FP-1000 module - Connect hardware modules (cont'd.)

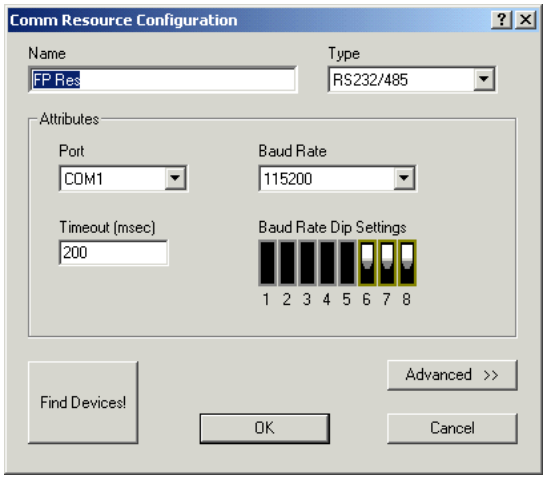
Step	Action
	• Expand the **IA Server with OPC** item, and click **FieldPoint** to highlight the section. • Right-click and select the option **Add a com resource to this server...** from the pop-up menu. The following window appears: 
5	Configure the comm resource.
	Adjust (if necessary) the **Port** (COM1) and **Baud Rate** parameter, according to your specific environment. Refer to the FP-1000 module documentation for more information on the dip switch settings of the module. In the **Advanced >>**section, you can leave the default values for the **timeout value** (200 msec) and the **read interval** (100 msec) unchanged, in most environments.
6	Check for attached modules.
	Click **Find Devices!** to search for of attached peripherals. An intermediate window appears while the program searches for devices. When the process is finished, the attached modules are automatically configured. This is illustrated in the following window:

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Table 2
Example 1a - FP-1000 module - Connect hardware modules (cont'd.)

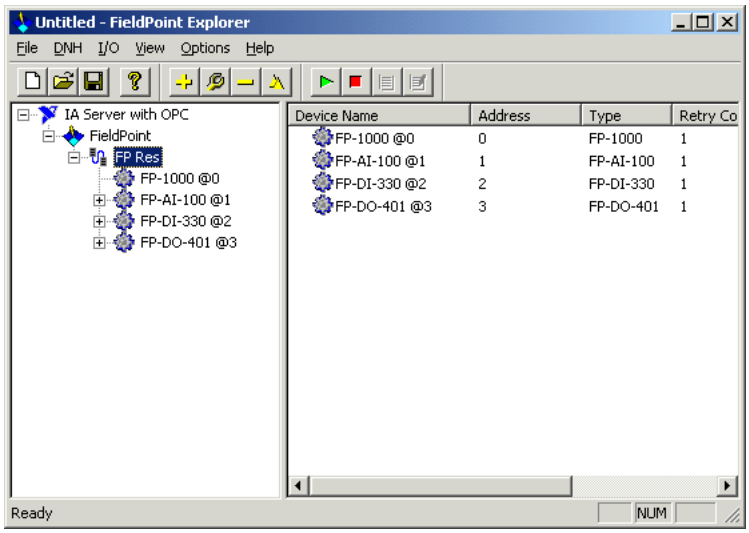
Step	Action
	

Table 3
Example 1b - FP-1000 module - Adjust module configuration

Step	Action
1	Open the Device Configuration window for FP-1000.
	• Highlight **FP-1000**. • Right-click to access a pop-up menu. • Choose **Device Configuration**.

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Table 3
Example 1b - FP-1000 module - Adjust module configuration (cont'd.)

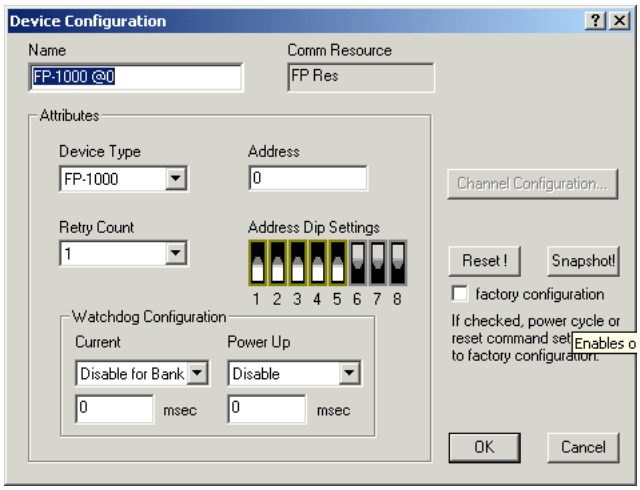
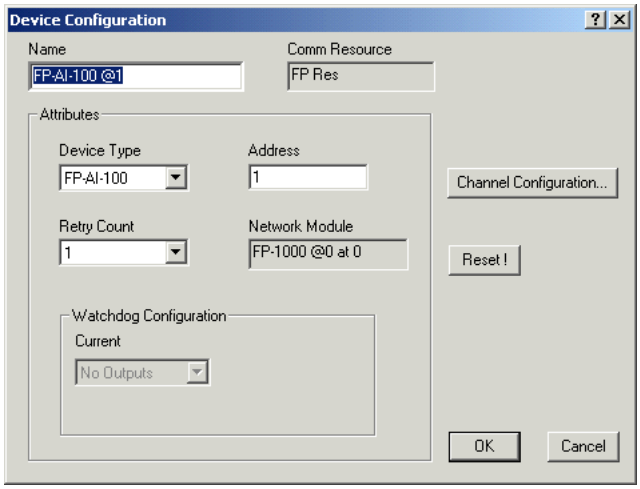
Step	Action
	 ***Note:*** You can highlight any individual module, and right-click the pop-up window to edit it.
2	Open the Device Configuration window for FP-AI-1000.
	• Highlight **FP-AI-100**. • Right-click to access a pop-up menu. • Choose **Device Configuration**. 
3	Adjust the range of analogue input on contact level for FP-AI-100.

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Table 3
Example 1b - FP-1000 module - Adjust module configuration (cont'd.)

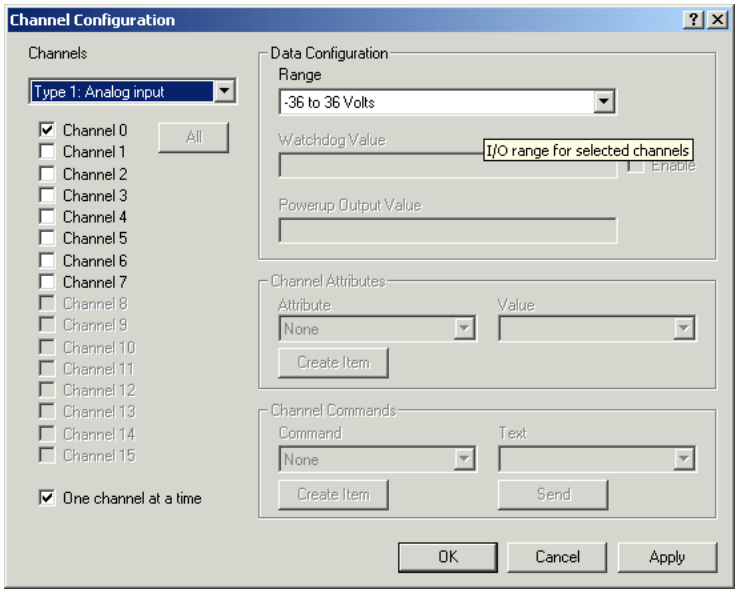
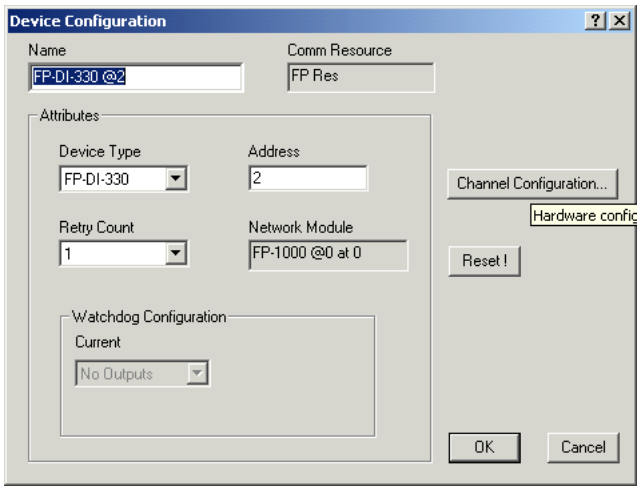
Step	Action
	Click **Channel Configuration...** to open the Channel Configuration window. 
4	Open the Device Configuration window for FP-DI-330.
	• Highlight **FP-DI-330**. • Right-click to access a pop-up menu. • Choose **Device Configuration**. 

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Table 3
Example 1b - FP-1000 module - Adjust module configuration (cont'd.)

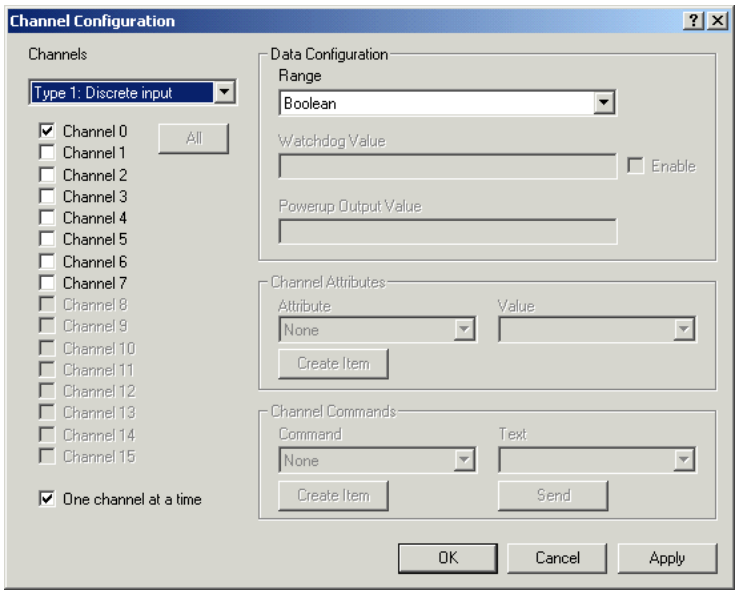
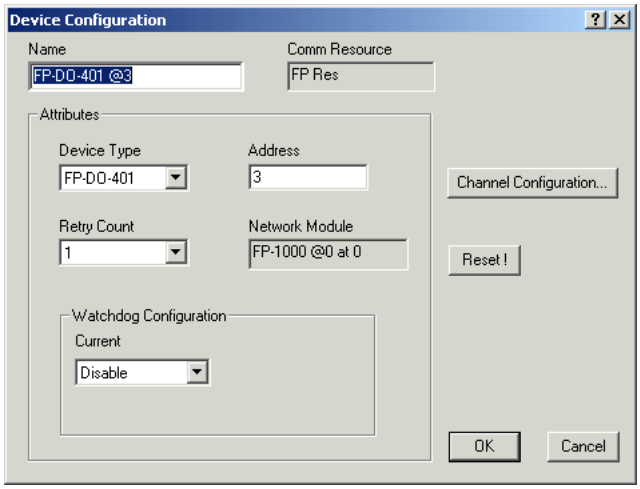
Step	Action
5	Adjust the range of discrete input on contact level for FP-DI-330.
	Click **Channel Configuration...** to open the Channel Configuration window. 
6	Adjust the range of analogue input on contact level for FP-DO-401.
	• Highlight **FP-DO-401**. • Right-click to access a pop-up menu. • Choose **Device Configuration**. 

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Table 3
Example 1b - FP-1000 module - Adjust module configuration (cont'd.)

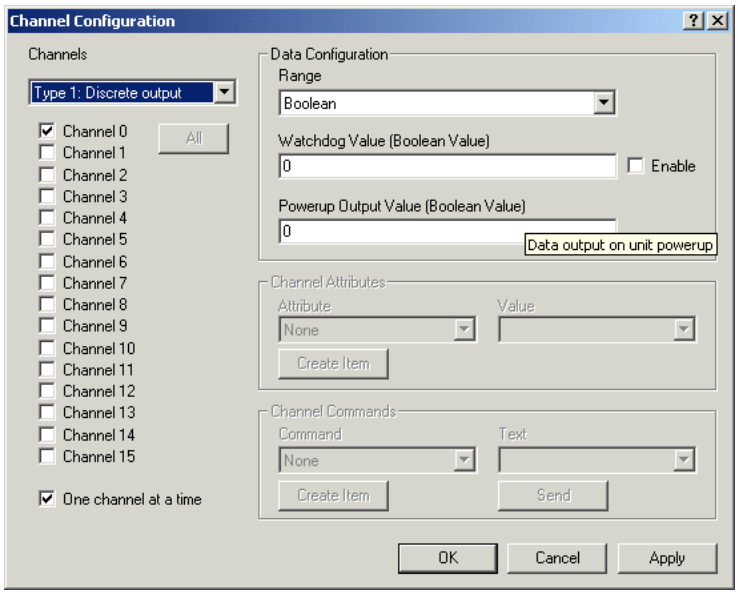
Step	Action
7	Adjust the range of digital input on contact level for FP-DO-401.
	Click **Channel Configuration...** to open the **Channel Configuration** window. 

Table 4
Example 1c - FP-1000 module - Adjust contact configuration

Step	Action
1	Editing an individual contact.
	• Highlight an individual contact. • Right-click to open the pop-up window and edit the individual item.

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Table 4
Example 1c - FP-1000 module - Adjust contact configuration (cont'd.)

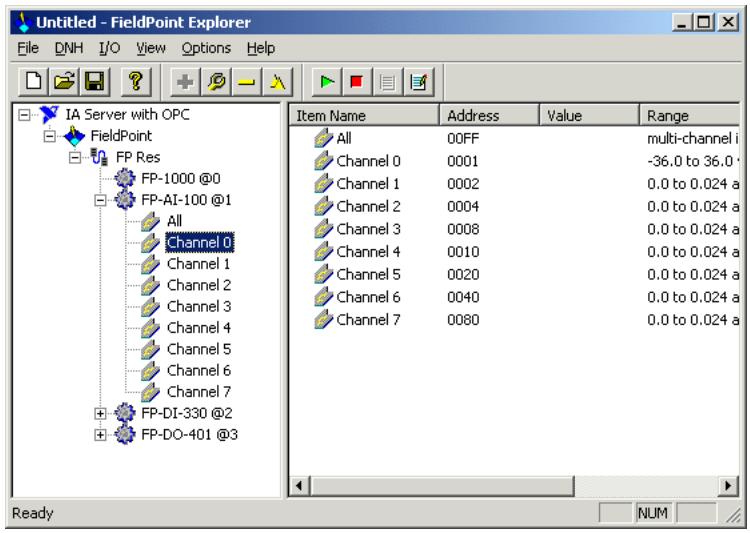
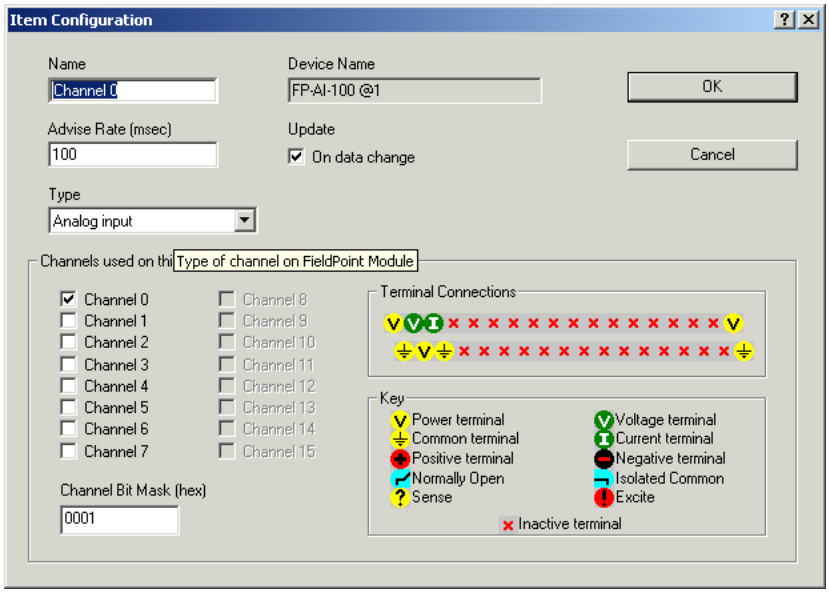
Step	Action
	
2	Edit an Analogue **Input** contact on a FP-AI-100 module.
	
3	Edit a Digital Input contact on a FP-DI-330 module.

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Table 4
Example 1c - FP-1000 module - Adjust contact configuration (cont'd.)

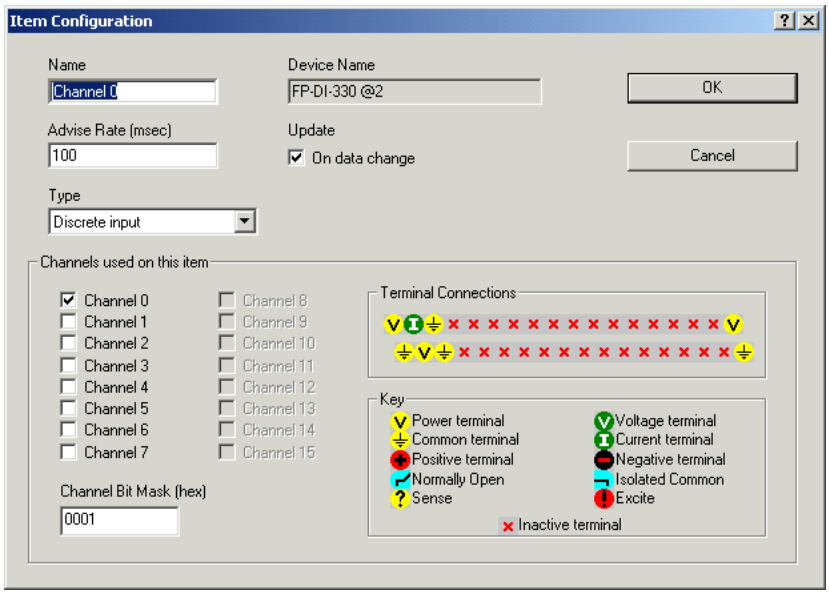
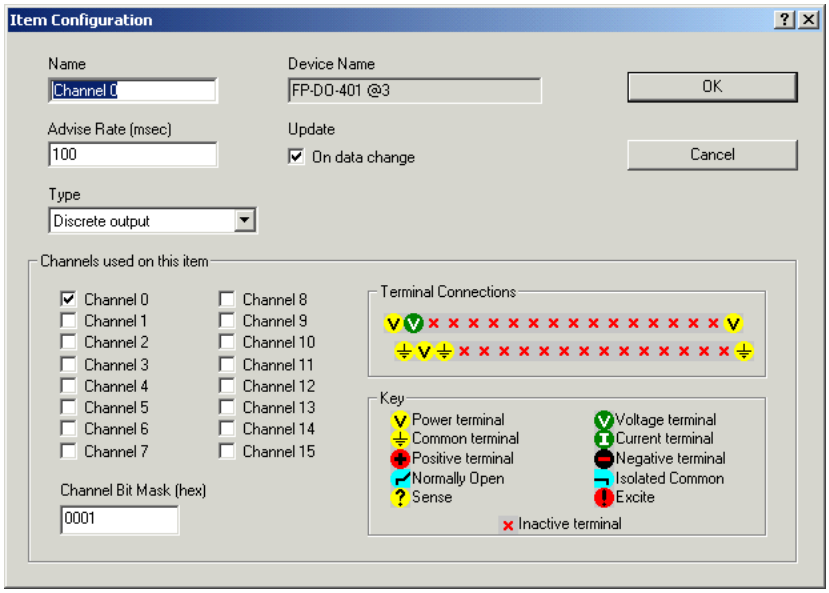
Step	Action
	
4	Edit a Digital Output contact on a FP-DO-401 module
	

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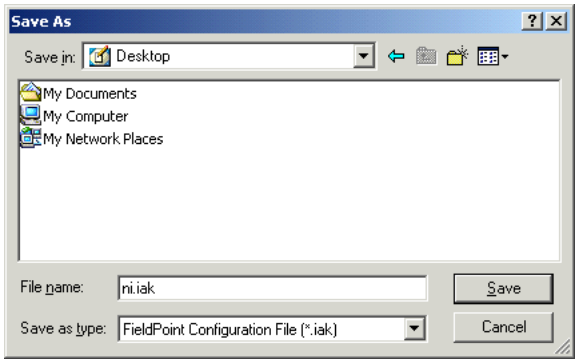
Table 5
Example 1d - FP-1000 module - Save configuration

Step	Action
1	Save the configuration.
	Choose **File > Save As**. Nortel recommends using the name ni.iak and locating the file on the desktop. 

Example 2: sample environment using FP-1600 module

Note: National Instruments FieldPoint distributed I/O modules are documented extensively on the National Instruments web site http://www.ni.com. Consult the web site to obtain more information on installing and configuring the modules.

See Table 6 "Example 2 - FP-1600 module" (page 131) for configuration procedures for a sample environment using FP-1600 module.

Table 6
Example 2 - FP-1600 module

Step	Action
1	Launch FieldPoint Explorer, and create a new project.
	Launch FieldPoint Explorer and select **File > New** to start a new FieldPoint project. ***Note:*** All FieldPoint Explorer projects are saved as *.iak files.
2	Add a comm resource.

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Table 6
Example 2 - FP-1600 module (cont'd.)

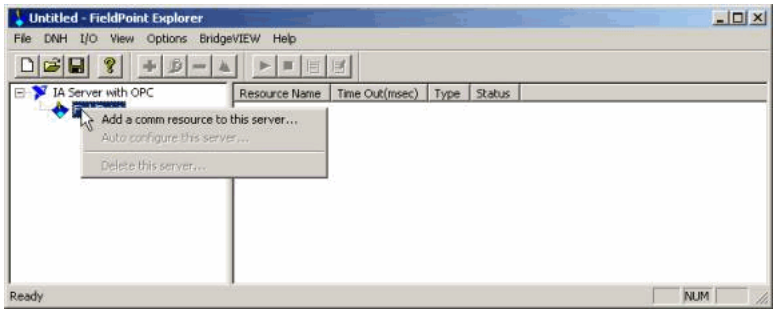
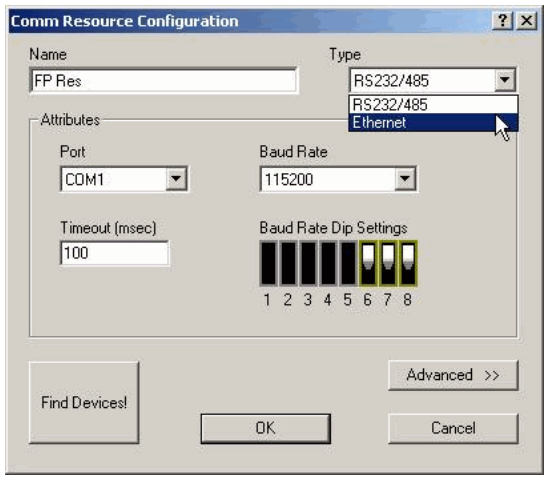
Step	Action
	• Double-click **IA Server with OPC**. • Highlight the **FieldPoint** resource. • Right-click and select **Add a comm resource to this server**, as shown in the following illustration: 
3	Configure the comm resource.
	• Select **Ethernet** as the communication type in the **Comm Resource Configuration** Window:  The window changes to the following:

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Table 6
Example 2 - FP-1600 module (cont'd.)

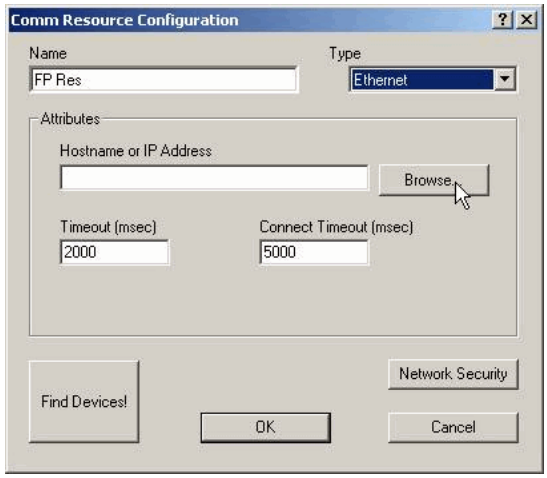
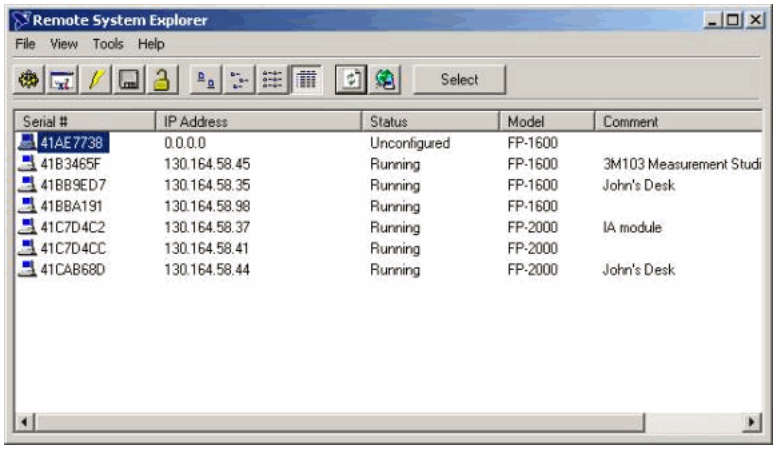
Step	Action
	 • Click **Browse**.
4	Find your Ethernet network module in the Remote System Explorer list.
	If your Ethernet network module does not appear in the list of Network Devices, refer to Troubleshooting Communication Problems with FieldPoint Ethernet Network Modules on the http://www.ni.com web site. ***Note:*** The Ethernet network module is shipped from the factory, without any configuration. If you previously configured the module, then reset the module before proceeding. 
5	Open the **System Configuration** window for your Ethernet network module.

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Table 6
Example 2 - FP-1600 module (cont'd.)

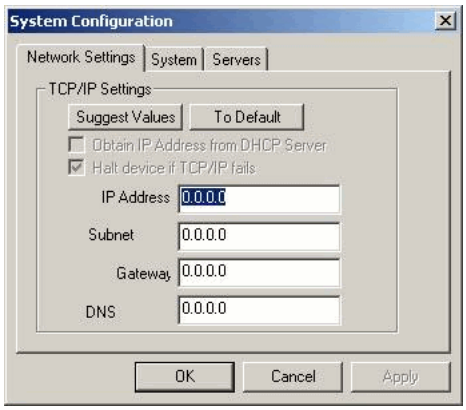
Step	Action
	• Select your Ethernet network module. • Double-click its serial number. The following window appears: 
6	Configure the network settings.
	Enter values for: • IP address • Subnet mask • Time Server IP The IP address is the address of your Ethernet network module on the network, the Subnet mask is the mask that the device uses to find other devices on the Ethernet network (255.255.255.0 is the most common), and the Time server IP is the address of the host computer connected to your Ethernet network module.

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Table 6
Example 2 - FP-1600 module (cont'd.)

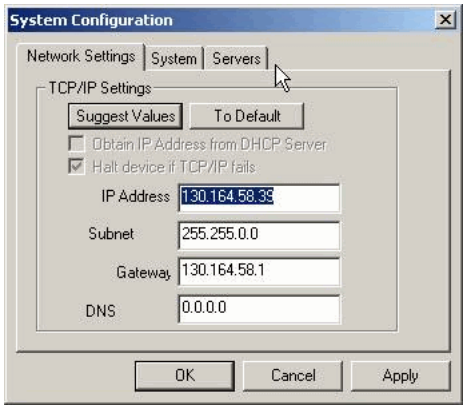
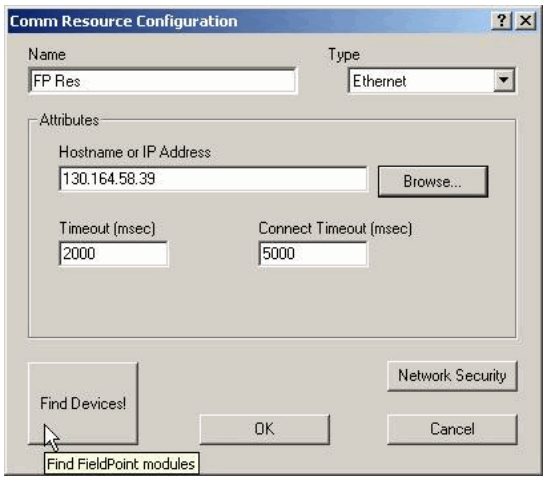
Step	Action
	 ***Note 1:*** This illustration shows a typical configuration. You can press **Suggest Values** for the FieldPoint Explorer to suggest values. ***Note 2:*** If you are using a network, ask the network administrator to assign a unique IP address to your Ethernet network module.
7	Apply your changes.
	Click **Apply**, and then click **OK** in each of the successive windows until you return to the window shown in the following illustration: 
8	Find connected modules.

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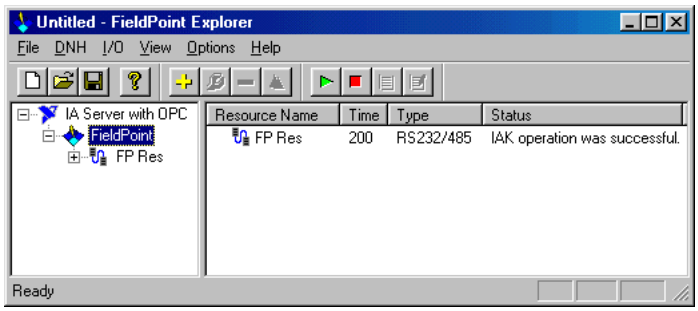
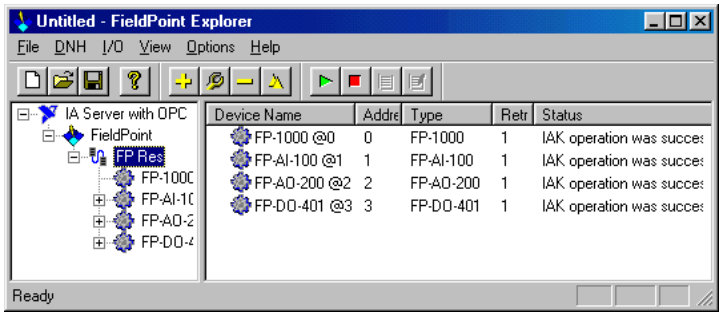
Table 6
Example 2 - FP-1600 module (cont'd.)

Step	Action
	Press **Find Devices!** to cause FieldPoint Explorer to detect your FP Modules:  ***Note:*** If you receive the message **No Modules were found**, go to Troubleshooting Communication Problems with FieldPoint Ethernet Network Modules on the http://www.ni.com web site.
9	Review the list of devices.
	Left-click **FP Res**, and the devices appear in the left panel of the window. 
10	Save configuration.
	Select **File > Save** to save your configuration settings.

Installing latest firmware

Nortel recommends that you use the latest available firmware on the FieldPoint FP-1000, FP-1001, FP-1600, and FP-1601 modules. Check the http://www.ni.com web site to determine what firmware revision is available.

For your convenience, Firmware Revision 30 for FP-100x and Revision 417 for FP-160x are shipped in the CD-ROM in the folder the \03 - National Instruments\03.03 - Firmware Revisions\ directory structure.

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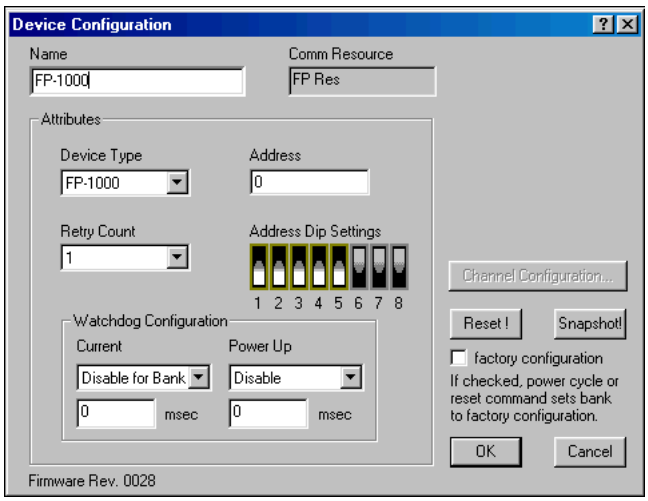
Use the steps in Procedure 28 “Check which firmware you are currently using” (page 137) to determine your current firmware revision.

Procedure 28
Check which firmware you are currently using

Step	Action
1	Open the **Device Configuration** dialog box. • Launch **FieldPoint Explorer**. • Click the **+** next to IA Server with OPC Server. • Continue expanding the tree until you find your network module. • Right-click your network module and select **Edit this device in the pop-up menu**.
2	Read the firmware version. In the **Device Configuration** dialog box, the firmware revision normally appears in the lower left corner in the form of Firmware Rev. xxxx, where xxxx represents the firmware revision number as is shown in the following dialog box.  If the firmware revision ***does not*** appear in the lower left corner of the dialog box: • Continue to step 5. If the firmware revisions ***does*** appear: • Click **Cancel** to exit. • Continue to Procedure 29 “Determining which firmware you need” (page 138).

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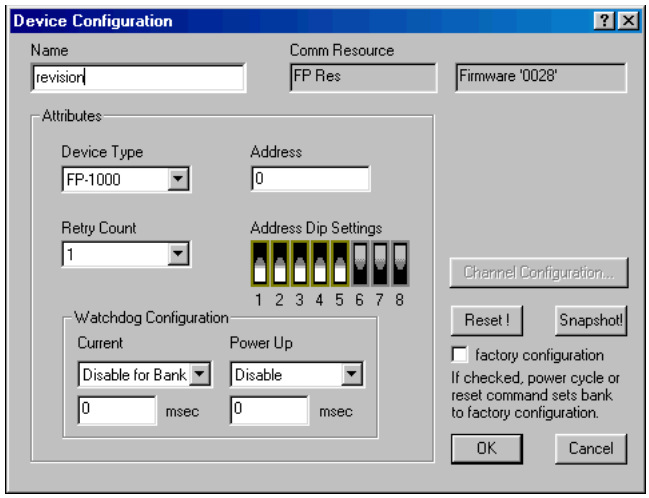
3 Check firmware revision if it is not displayed in Step 2.

- If the firmware revision does not appear in the lower left corner, as shown in the previous dialog box, enter **`revision`** in the Name field.

The firmware revision appears in the upper-right corner as shown in the following illustration.

- Click **Cancel** to exit.



Note: Do ***not*** press **Enter** or click **OK**. Doing so renames the module revision, resulting in undesired changes. Click **Cancel** to exit from the **Device Configuration** dialog box.

--End--

Procedure 29
Determining which firmware you need

Step	Action
1	Check to determine what firmware version you need. Check Table 7 "Minimum firmware revision required for each of the FieldPoint I/O modules" (page 139) to determine the minimum firmware revision required for each of the FieldPoint I/O modules. Use the table to compare the minimum firmware requirement to your current firmware revisions that you found in

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the previous section, Procedure 28 “Check which firmware you are currently using” (page 137).

--End--

Table 7
Minimum firmware revision required for each of the FieldPoint I/O modules

Network Modules	Minimum FP-1000/1001 Firmware	Minimum FP-1600 Firmware	Minimum FP-2000/2010 Firmware	Minimum FP-3000 Firmware
FP-1000	14	—	—	—
FP-1001	14	—	—	—
FP-1600	—	0100	—	—
FP-2000	—	—	1.0.21	—
FP-2010	—	—	1.0.21	—
FP-3000	—	—	—	1.0
Analogue Modules	—	—	—	—
FP-AI-100	14	0100	1.0.21	1.0
FP-AI-110	14	0100	1.0.21	1.0
FP-AI-111	14	0100	1.0.21	1.0
FP-AO-200	14	0100	1.0.21	1.0
FP-AO-210	14	0100	1.0.21	—
FP-RTD-122	14	0100	1.0.21	1.0
FP-TC-120	20	0100	1.0.21	1.0
Discrete Modules	—	—	—	—
FP-CTR-500	30	0100	1.0.21	—
FP-CTR-502	30	0100	1.0.21	—
FP-DI-300	14	0100	1.0.21	1.0
FP-DI-301	14	0100	1.0.21	1.0
FP-DI-330	14	0100	1.0.21	1.0
FP-DO-400	14	0100	1.0.21	1.0
FP-DO-401	14	0100	1.0.21	1.0
FP-DO-403	14	0100	1.0.21	2.3.5
FP-DO-410	24	0100	1.0.21	2.3.5
Pulse Modules	—	—	—	—
FP-PG-522	24	0200	1.0.21	—

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Table 7
Minimum firmware revision required for each of the FieldPoint I/O modules (cont'd.)

Network Modules	Minimum FP-1000/1001 Firmware	Minimum FP-1600 Firmware	Minimum FP-2000/2010 Firmware	Minimum FP-3000 Firmware
FP-PWM-520	24	0100	1.0.21	1.0
Relay Modules	—	—	—	—
FP-RLY-420	14	0100	1.0.21	1.0
FP-RLY-422	14	0100	1.0.21	2.3.5
Quadrature Input Module	—	—	—	—
FP-QUAD-510	25	0200	1.0.21	—
Dual Channel Modules	—	—	—	—
FP-TB-10	28	0320	1.0.21	—

If the firmware revision you are using does not meet the needs of your I/O modules, you must upgrade your firmware. Continue to one of the following sections, depending on which network module is installed:

- Procedure 30 "Downloading firmware for the FP-1000/1001" (page 140)
- Procedure 31 "Downloading firmware for the FP-1600" (page 142)

Note: Nortel recommends the Firmware Revision 30 or later for FP-100x, and Revision 417 or later for FP-160x. These versions are shipped on the CD-ROM, or you can download them from the web site as described in Procedure 30 "Downloading firmware for the FP-1000/1001" (page 140).

WARNING
To protect your FieldPoint system when downloading firmware for the FP-1001, isolate your FP-1001 and your computer from the rest of your FieldPoint system.

Procedure 30
Downloading firmware for the FP-1000/1001

Step	Action
1	Go to the **NL Software Library** web page. • Launch your web browser. • Go to the Driver and Firmware download page on http://www.ni.com(**Support > Product Reference > Drivers**

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and Updates > All Software Versions > Distributed I/O - Fieldpoint).

2 Download the firmware update utility.

Browse in the list titled Firmware, and:

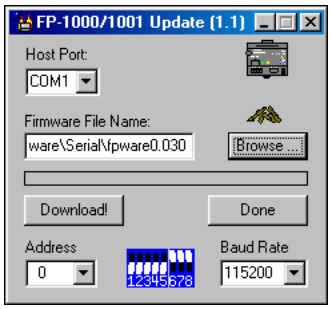
- Click **FP-1000/1001 Firmware Revision 30 for Windows 95/98/NT/2000/ME**.
- Click **continue the download process**.
- If are not already logged in, log in to the web site as prompted.
- Download **FPupdate.zip**.
- Unzip the archive into your FieldPoint directory.

3 Run FPUpdate to update the firmware.

Close FieldPoint Explorer.

In your FieldPoint directory, navigate to the file, **FPUpdate**.

Double-click **FPUpdate**, which brings up the **FP-1000/1001 Update** dialog box as shown in the following window.



WARNING
Do not interrupt the download.

4 Choose the firmware version you need.

- Click **Browse** and navigate to the firmware to which you are upgrading. In this example, the firmware is fpware0.030.
- Set the address and baud rate to correspond with the settings on your FP-1000/1001.
- Click **Download**.

5 Verify that the firmware upgrade is complete.

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Follow the steps in Procedure 28 “Check which firmware you are currently using” (page 137).

--End--

Use the following instructions if you use FieldPoint Explorer 3.0.0 or higher. The steps are slightly different if you are using an older version.

Procedure 31
Downloading firmware for the FP-1600

Step	Action
1	Go to the NL Software Library web site. • Launch your internet browser. • Go to the Driver and Firmware download page on http://www.ni.com**(Support > Product Reference > Drivers and Updates > All Software Versions > Distributed I/O - Fieldpoint)**.
2	Download the firmware. Browse in the list titled Firmware, and: • Click **FP-1600 Firmware Revision 417 for Windows**. • Click **continue the download process**. • If you are not already logged in, log in to the Web site as prompted. • Download the firmware file. • Unzip the archive.
3	Open the **Comm Resource Configuration** dialog box. Launch FieldPoint Explorer. Right-click the comm resource of your FP-1600 and select **Edit this device**.

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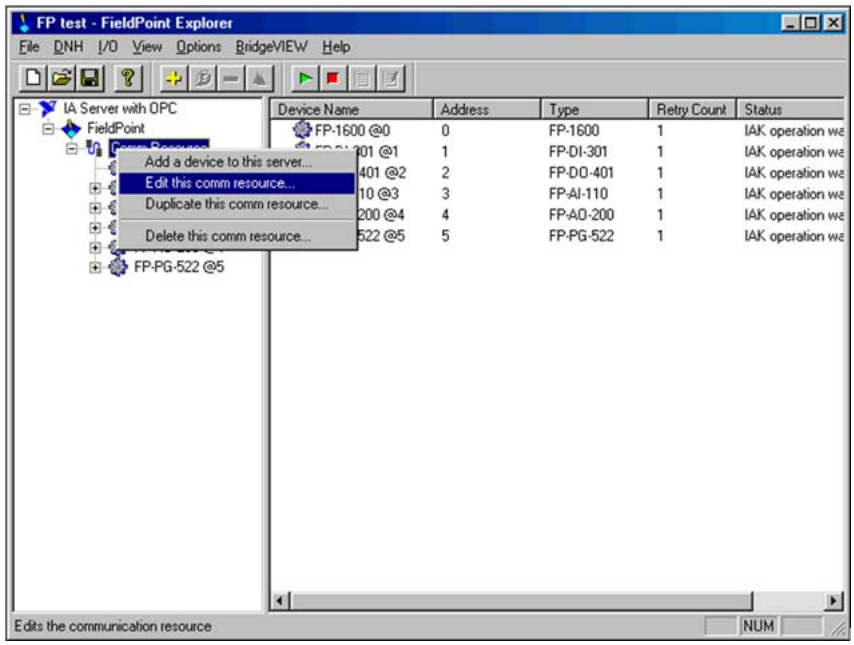

4 Open the **Remote System Explorer** dialog box.

In the **Comm Resource Configuration** dialog box, click **Browse**.

5 Select **Install/Upgrade Software**.

In the **Remote System Explorer** dialog box, right-click your FP-1600 and select **Install/Upgrade Software**.

6 Select the firmware update file to install.

- In the Upgrade Firmware dialog box, click **Browse**.
- Navigate to the firmware upgrade file you downloaded from the NI web page in Step 2.
- Click **Update**.

WARNING
Do not interrupt the download.

7 Confirm the upgrade.

Confirm that the firmware upgrade is complete by following the steps in Procedure 28 “Check which firmware you are currently using” (page 137).

--End--

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Using the eIO module

WARNING
Close the FieldPoint Explorer application when you want to activate the eIO module. Both applications attempt to allocate the distributed I/O resources, and therefore cannot run concurrently. If one application is active, the other one cannot run simultaneously.

You must adjust the configuration of each module and contact prior to using eIO. You can use the built-in functions of the FieldPoint Explorer to monitor the status and measured levels on attached peripherals. For analogue input, be careful to select the correct input range and unit of measurement. For discrete output, pay close attention to the startup value.

To determine the configuration values needed to correctly configure the eIO_MODULE, eIO_AI, eIO_DI and eIO_DO configuration tables, use the FieldPoint Explorer software. You must configure the DECT Messenger database before you launch the eIO module. When everything is correctly configured, the eIO window shows information similar to the illustrations in Figure 9 "eIO module" (page 144) and Figure 10 "eIO connections" (page 145), and in Figure 11 "Analogue input module" (page 145) through Figure 13 "Digital output module" (page 146).

Figure 9
eIO module

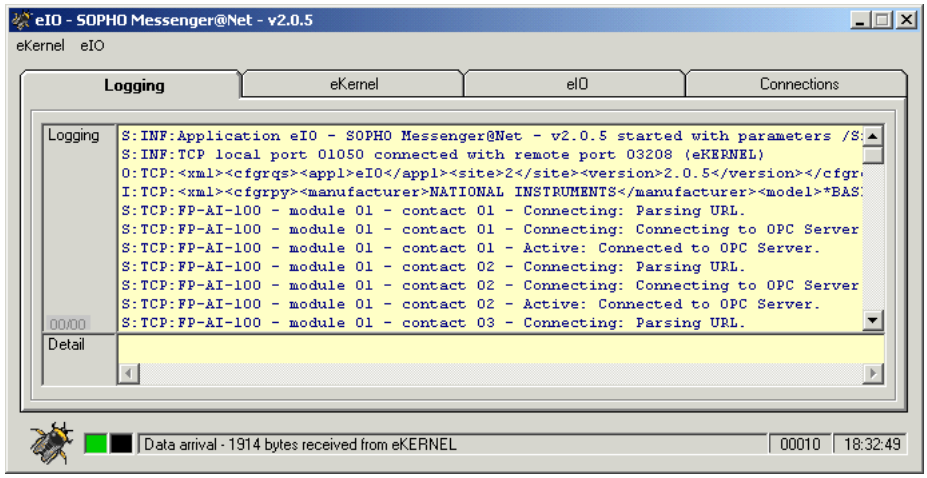

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Figure 10
eIO connections

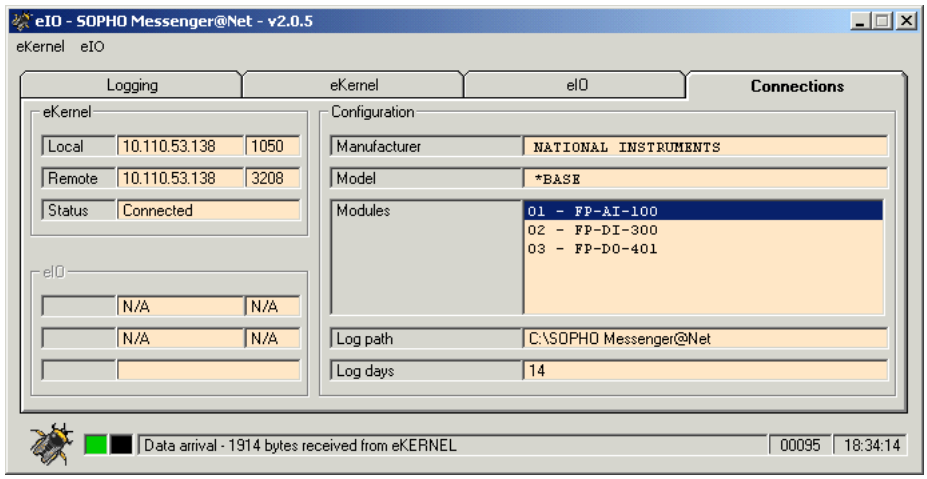

Figure 11
Analogue input module

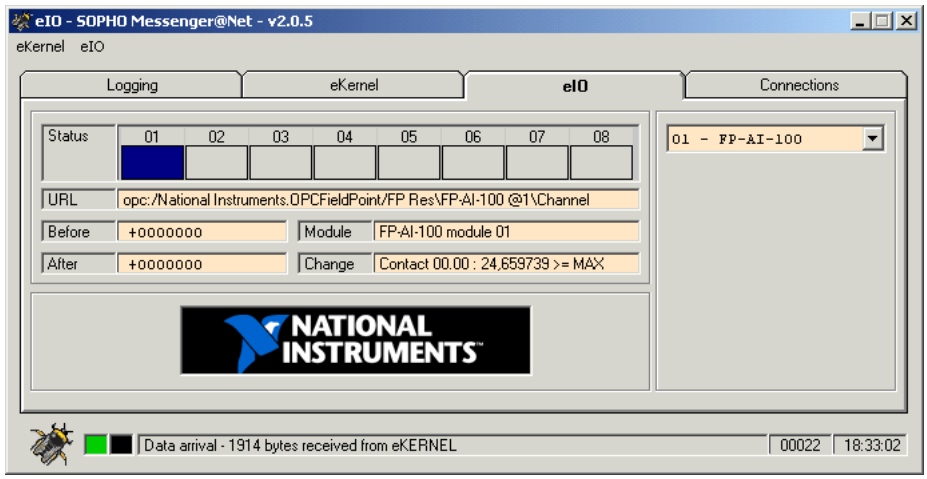

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Figure 12
Digital input module

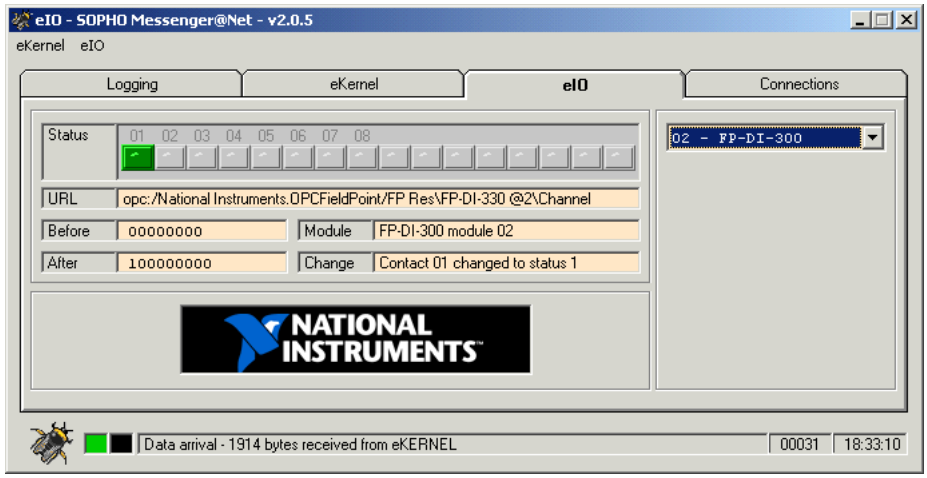
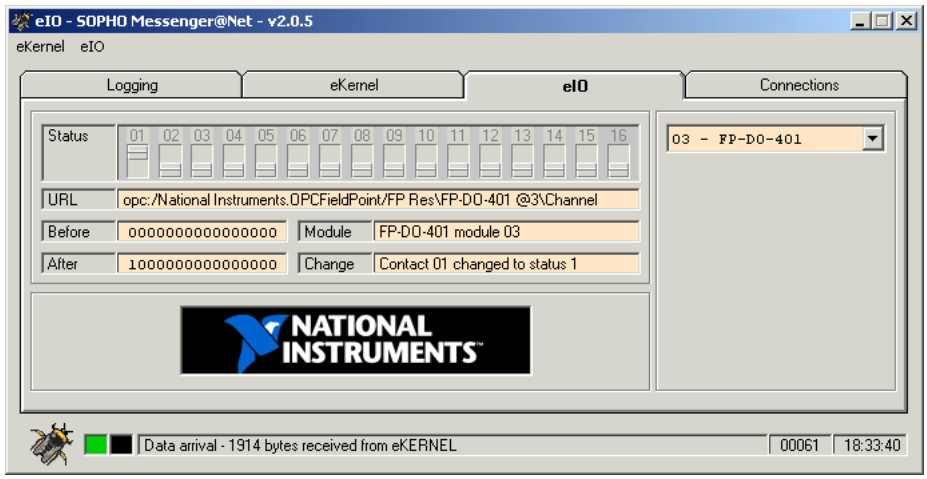


Figure 13
Digital output module



Accessing troubleshooting resources

In case of problems, you can consult the http://www.ni.com for more information. The content of two documents from this repository are provided in:

- “Why Does the FP-1600/2000/2010 Have Problems Configuring in Computers with 2 Ethernet Ports?” (page 147)
- “Minimizing and Suppressing Noise (EMI) In the FieldPoint FP-1600/2000/2010 Ethernet Cable” (page 148)

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Why Does the FP-1600/2000/2010 Have Problems Configuring in Computers with 2 Ethernet Ports?

Product Group: FieldPoint Hardware

Product Name: FP-1600

Version/Revision: N/A

Problem: In computers that use two ethernet cards, attempts to configure an FP-1600/2000/2010 sometimes results in the message, no response from module. I am trying to assign an IP address to my FieldPoint 1600 module. It shows up as Unconfigured, but when I try to assign the IP address, I see the message Module not responding. What is wrong?

Solution: This can be caused by a variety of factors. First, in a two ethernet port system, both ports must be configured with mutually exclusive subnets. There can be no overlap in the subnet addresses of the two ports; however, even when this is properly configured, there are frequently problems with configuring the FP-1600/2000/2010.

This is due to a limitation with the Microsoft TCP/IP stack (as tested under Windows 98 and Windows NT4 SP5). A typical message contains source, destination, and data information. When sending out broadcast messages, the Microsoft TCP/IP stack places the same source address in the messages going out both ports (that is, the address of the first port in the stack is used), rather than using the appropriate source address for each port. Thus, an FP-1600/2000/2010 trying to respond to the message is trying to respond to the wrong port, because that is the address received. This happens only with broadcast messages. FieldPoint uses broadcast messages while configuring a module. When the module is configured, point-to-point messages are used to communicate with the module.

There are several ways to work around the broadcast limitation while configuring the module.

- Workaround 1: Place the module on the other ethernet card for configuration.
- Workaround: 2: Use a computer that has only one ethernet card for configuration.
- Workaround 3: Remove the ethernet drivers for both cards, and then reinstall the drivers with the board that talks to the FP-1600 being installed first.
- Workaround 4: If your system uses two plug-in ethernet cards (not integrated on the computer motherboard), and then swap the positions of the two cards.

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Note 1: Broadcast messages pass through both ports simultaneously, whereas point-to-point messages go out a single port, based on the address information.

Note 2: This affects only the configuration of the IP settings of an FP-1600/2000/2010, but does not affect normal communications.

After configuration, you can use two ethernet cards on a single computer to communicate to a FieldPoint network module, but only if the cards are configured with mutually exclusive subnets. This is because point-to-point communications are transmitted out single ports based on the subnet masks for the network cards. During configuration the FieldPoint network modules are not assigned IP addresses, so broadcast messaging is used through both ports.

Related Links:
Developer Zone Tutorial: Troubleshooting Communication Problems with the FP-1600 at zone.ni.com/zone/jsp/zone.jsp.

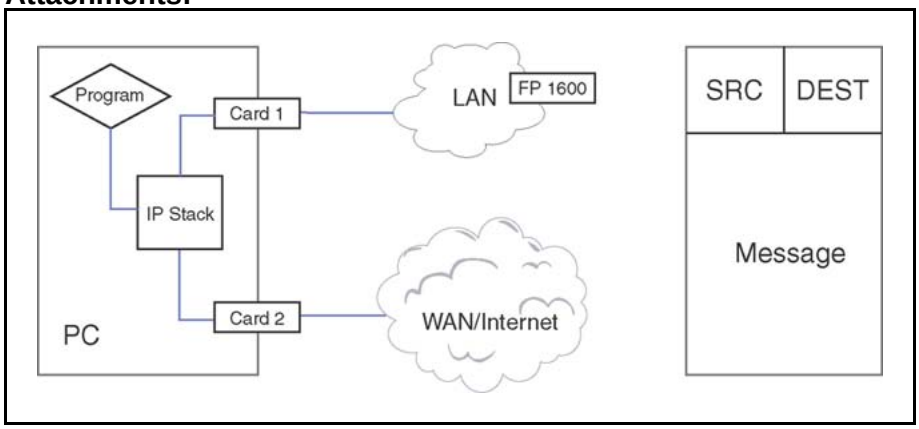
Fixed Version:

Report Date: 09/06/2000

Last Updated: 30/09/2002

Document ID: 1Y8CJDEB

Attachments:



Minimizing and Suppressing Noise (EMI) In the FieldPoint FP-1600/2000/2010 Ethernet Cable

Product Group: FieldPoint Hardware

Product Name: FP-1600, FP-2000, FP-2010

Version/Revision: N/A

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Problem: Noise from a nearby fluorescent light or machine is interfering with the communication of my FieldPoint Ethernet network module. How do I suppress this noise?

Solution:

1. Place a snap-on ferrite noise suppressor on the Ethernet cable. Install the suppressor, using one half-turn (one pass-through) and place the suppressor within 10 cm of the network module. You can purchase a ferrite EMI suppressor from Fair-Rite Products (manufacturer part number: 0443164251, available through the web site http://www.fair-rite.com).
2. Install the entire FieldPoint bank in an EMC-rated enclosure or in an earth-grounded cabinet. Shield all other I/O and control lines connected to your FieldPoint Ethernet network module with EMC rated cable raceway or metal conduit.

Related Links:
Fair-Rite Products web site at http://www.fair-rite.com

Fixed Version:

Report Date: 14/06/2001

Last Updated: 20/11/2003

Document ID: 2ADF2T8T

Additional information

For additional documentation, see the National Instruments web site at http://www.ni.com.

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Install PC - Step 4 - Web Server

This chapter provides information on the following subjects:

- “Installing ODBC” (page 151)
- “SQL Server 2005 Express” (page 156)
- “Installing Apache Web Server 2.0.55” (page 165)
- Procedure 38 “Installing PHP” (page 172)
- “Configuring PHP” (page 180)

This section is required only if you install the eWEB module or the Web Administrator module.

Installing ODBC

Nortel DECT Messenger requires *two* ODBC System DSN configurations; one to access the Messenger_CFG database and one to access the Messenger_DATA database.

ATTENTION
The Messenger_CFG database is supported only through Microsoft Access Driver. The Messenger_DATA database is supported through Microsoft Access Driver and through several implementations of the SQL Server engine.

During Database Engine installation (Install PC - Step 1f - Database Engine) you determine what database engine to use. The installation of the ODBC System DSN and the settings in Messenger_CFG table eKERNEL_Site you use depend on the database engine you use. Some sample connection strings follow.

- Example of Microsoft Access

  Provider=Microsoft.Jet.OLEDB.4.0;Data Source=C:\Nortel DECT Messenger\Mdb\Messenger_DATA.MDB

- Example of SQL Server 2005 Express Edition

  Provider=SQLOLEDB.1;Persist Security Info=False;User ID=sa;Password=BEFMI@A31;Initial Catalog=Messenger_DATA;Data Source=MESSENGER/SQLEXPRESS

- Example of SQL Server 2000 Desktop Engine

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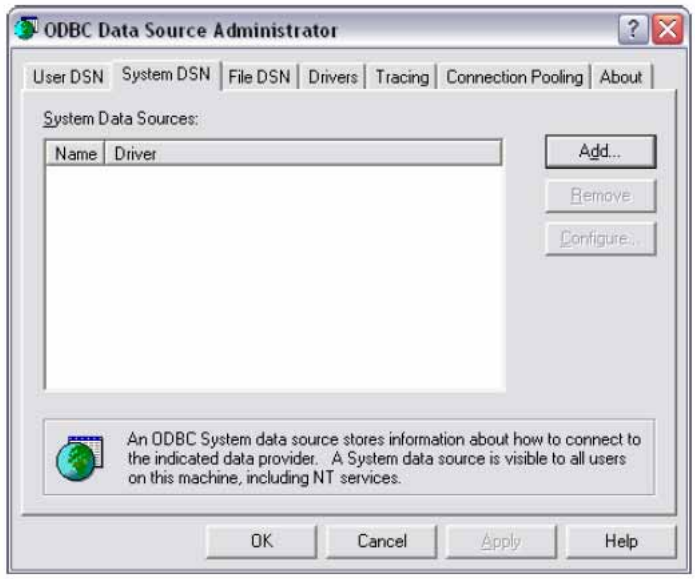
Provider=SQLOLEDB.1;Persist Security Info=False;User ID=sa;Password=BEFMI@A31;Initial Catalog=Messenger_DATA;Data Source=127.0.0.1

- Example of SQL Server 2000 or SQL Server 2005, typically on a remote host, for example 192.168.1.30

  Provider=SQLOLEDB.1;Persist Security Info=False;User ID=sa;Password=BEFMI@A31;Initial Catalog=Messenger_DATA;Data Source=92.168.1.30

Procedure 32
Configuring System DSN for Messenger CFG database

Step	Action
1	Launch the **Open Database Connectivity (OBDC) Administrator** tool. Click **Start** on the Windows task bar, and choose **Settings > Control Panel > Administrative Tools > Data Sources (ODBC)**.
2	Open the **OBDC Setup** window for Messenger_CFG.



- Click the **System DSN** tab.
- Click **Add**.

3	Select the driver. • Choose **Microsoft Access Driver (*.mdb)** from the list.

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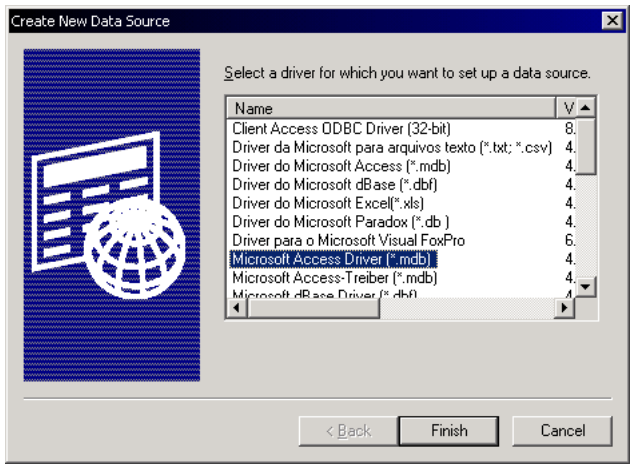
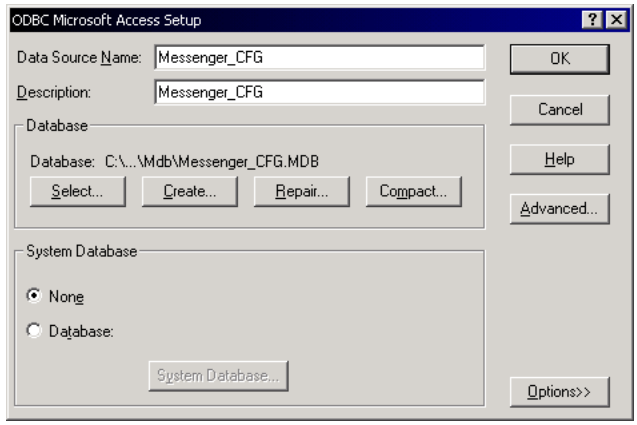

Create New Data Source
Select a driver for which you want to set up a data source.
Name
Client Access ODBC Driver (32-bit)
Driver da Microsoft para arquivos texto (*.txt; *.csv)
Driver do Microsoft Access (*.mdb)
Driver do Microsoft dBase (*.dbf)
Driver do Microsoft Excel(*.xls)
Driver do Microsoft Paradox (*.db)
Driver para o Microsoft Visual FoxPro
Microsoft Access Driver (*.mdb)
Microsoft Access-Treiber (*.mdb)
< Back
Finish
Cancel

- Click **Finish**.

4 Enter parameters and set the database path

- Enter the parameters as specified in the following illustration:



- Click **Select** and specify the appropriate configuration database: C:\SOPHO Messenger@Net\Mdb\Messenger_CFG.Mdb.
- Click **OK**.
  The window that follows appears.

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- Click **Cancel**.

--End--

If you use Microsoft Access for Messenger_DATA database, use the following steps.

Procedure 33
Configuring System DSN for Messenger DATA database

Step	Action
1	Launch the **Open Database Connectivity (OBDC) Administrator** tool shown in the previous figure. Click **Start** on the Windows task bar, and choose **Settings > Control Panel > Administrative Tools > Data Sources (ODBC)**
2	Open the **OBDC Setup window for Messenger_DATA**. • Click the **System DSN** tab. • Click **Add**.
3	Select the driver. • Choose **Microsoft Access Driver (*.mdb)** from the list. • Click **Finish**.

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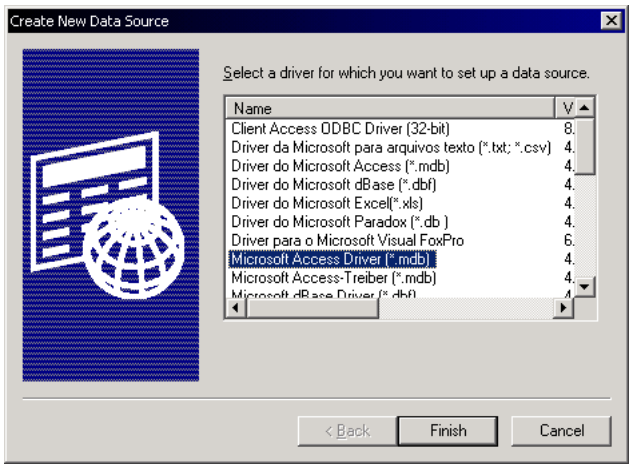
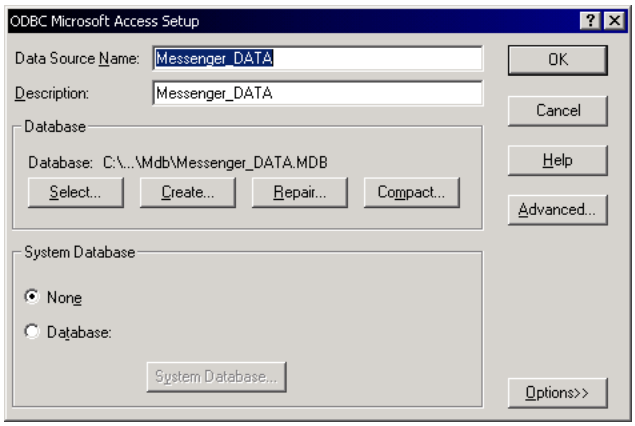

Create New Data Source
Select a driver for which you want to set up a data source.
Name
Client Access ODBC Driver (32-bit)
Driver da Microsoft para arquivos texto (*.txt; *.csv)
Driver do Microsoft Access (*.mdb)
Driver do Microsoft dBase (*.dbf)
Driver do Microsoft Excel(*.xls)
Driver do Microsoft Paradox (*.db)
Driver para o Microsoft Visual FoxPro
Microsoft Access Driver (*.mdb)
Microsoft Access-Treiber (*.mdb)
< Back
Finish
Cancel

4 Enter parameters and set the database path.

- Enter the parameters as specified in the following illustration:



- Click **Select** and specify the appropriate configuration database: C:\SOPHO Messenger@Net\Mdb\Messenger_DATA.mdb.
- Click **OK**.
- Click **Cancel**.

--End--

If you plan to use an SQL Server

Before you can configure an SQL Server, determine the user and password to access the SQL Server to ensure they match the settings described in the connection string as follows:

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```
Provider=SQLOLEDB.1;Persist Security Info=False;User
ID=sa;Password=sa;Initial Catalog=Messenger_DATA;Data
```

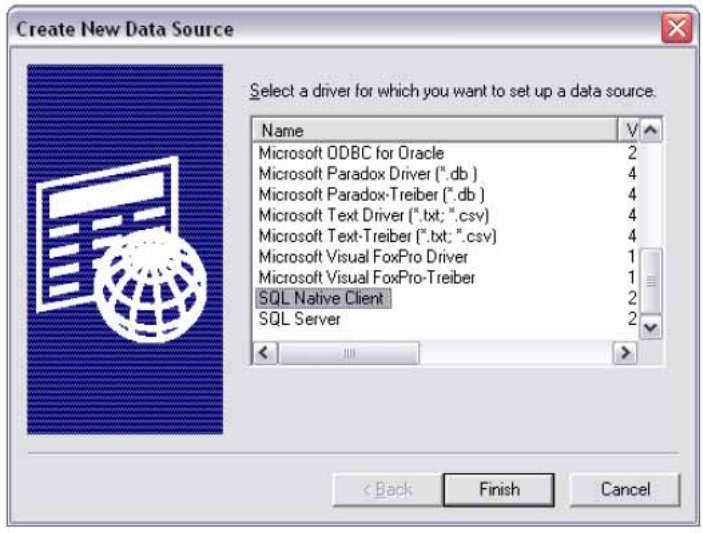
In the previous example, user =sa and password = sa. Nortel recommends that you select a new password during the setup of an SQL Server.

SQL Server 2005 Express

If you use SQL Server 2005 Express, use the steps in the following procedure.

Procedure 34
Using SQL Server 2005 Express

Step	Action
1	Launch the **Open Database Connectivity (OBDC) Administrator** tool shown in . Click **Start** on the Windows task bar, and choose **Settings > Control Panel > Administrative Tools > Data Sources (ODBC)**
2	Open the **OBDC Setup window for Messenger_DATA**. • Click the **System DSN** tab. • Click **Add**. The following window appears.



3	Select **SQL Native Client** and click **Finish**. The following window appears.

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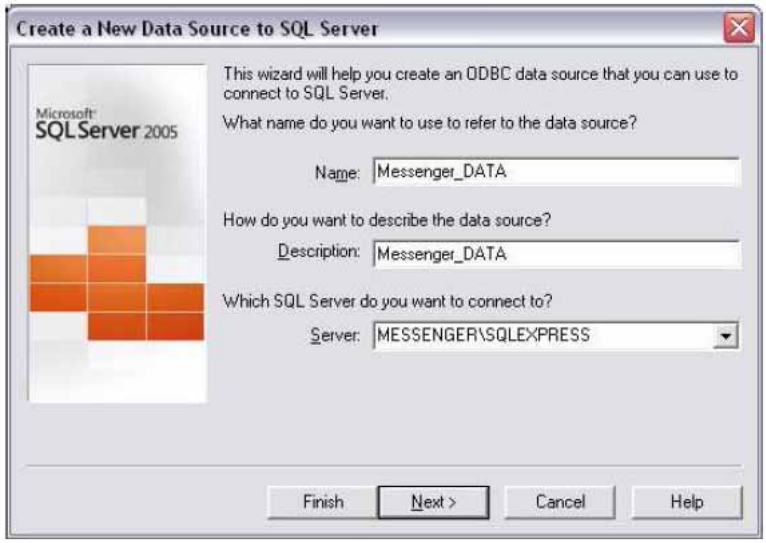
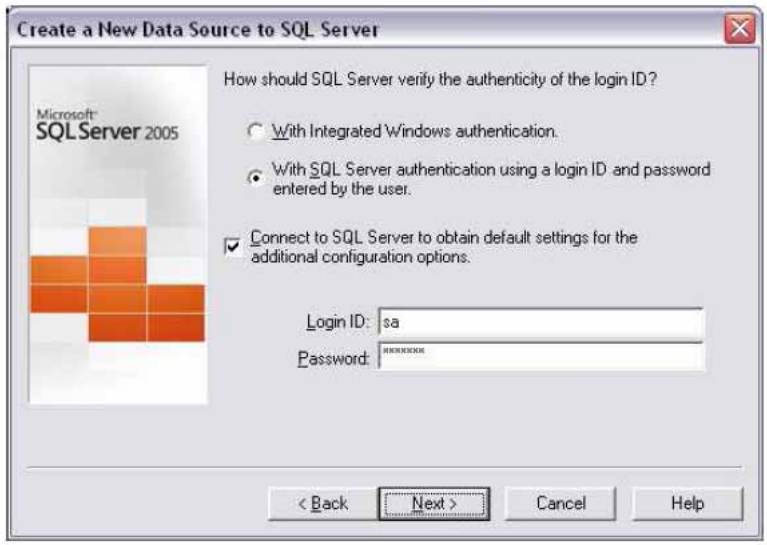

Create a New Data Source to SQL Server
Microsoft SQL Server 2005
This wizard will help you create an ODBC data source that you can use to connect to SQL Server.
What name do you want to use to refer to the data source?
Name: Messenger_DATA
How do you want to describe the data source?
Description: Messenger_DATA
Which SQL Server do you want to connect to?
Server: MESSENGER\SQLEXPRESS
Finish
Next >
Cancel
Help

4 Click **Next**.

The following window appears.

Enter the values as shown.


Create a New Data Source to SQL Server
Microsoft SQL Server 2005
How should SQL Server verify the authenticity of the login ID?
With Integrated Windows authentication.
With SQL Server authentication using a login ID and password entered by the user.
Connect to SQL Server to obtain default settings for the additional configuration options.
Login ID: sa
Password: *******
< Back
Next >
Cancel
Help

5 Choose **SQL Server authentication** and enter **sa** and password **sa** and click **Next**.

The following window appears.

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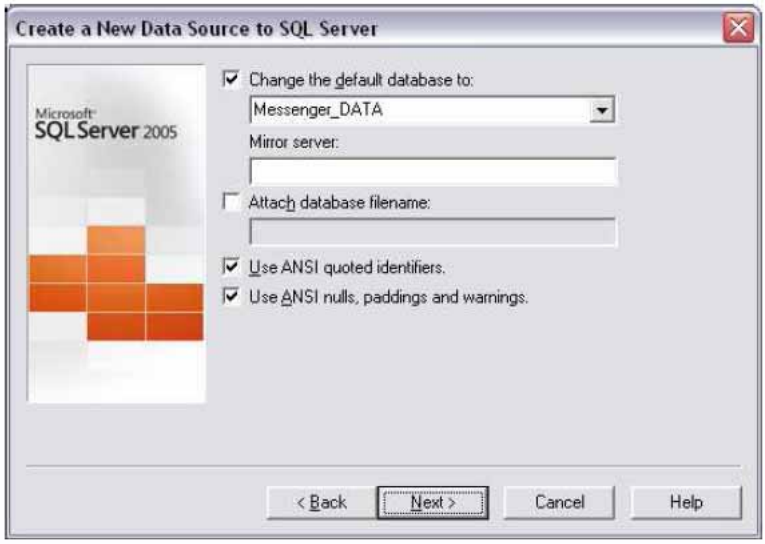
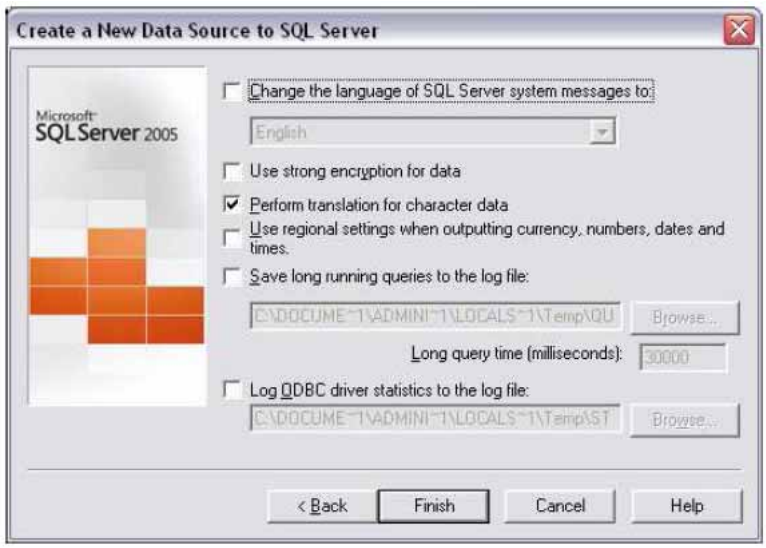


6 Check the box next to **Change the default database to** and select **Messenger_DATA** . Check the other boxes as indicated in the previous figure. Click **Next**.

The following figure appears.


Create a New Data Source to SQL Server
Microsoft SQL Server 2005
Change the language of SQL Server system messages to:
English
Use strong encryption for data
Perform translation for character data
Use regional settings when outputting currency, numbers, dates and times.
Save long running queries to the log file:
Browse...
Long query time (milliseconds):
30000
Log ODBC driver statistics to the log file:
Browse...
< Back
Finish
Cancel
Help

7 Click **Finish**.

The following window appears.

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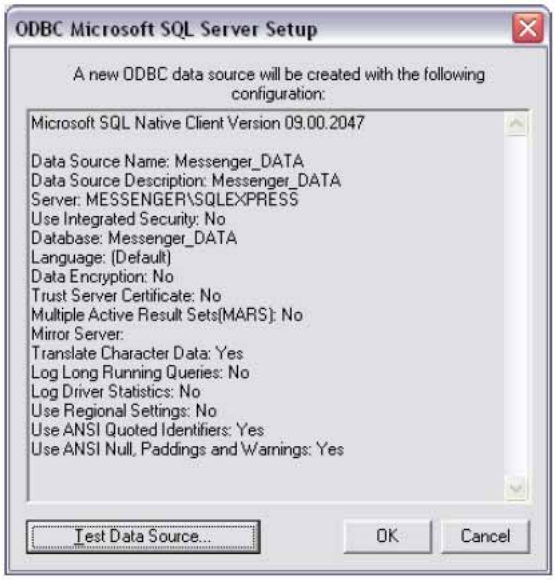
ODBC Microsoft SQL Server Setup
A new ODBC data source will be created with the following configuration:
Microsoft SQL Native Client Version 09.00.2047
Data Source Name: Messenger_DATA
Data Source Description: Messenger_DATA
Server: MESSENGER\SQLEXPRESS
Use Integrated Security: No
Database: Messenger_DATA
Language: (Default)
Data Encryption: No
Trust Server Certificate: No
Multiple Active Result Sets(MARS): No
Mirror Server:
Translate Character Data: Yes
Log Long Running Queries: No
Log Driver Statistics: No
Use Regional Settings: No
Use ANSI Quoted Identifiers: Yes
Use ANSI Null, Paddings and Warnings: Yes
Test Data Source...
OK
Cancel

8 Click **Test Data Source**.

The following window appears.

9 Click **OK**.

The following window appears.

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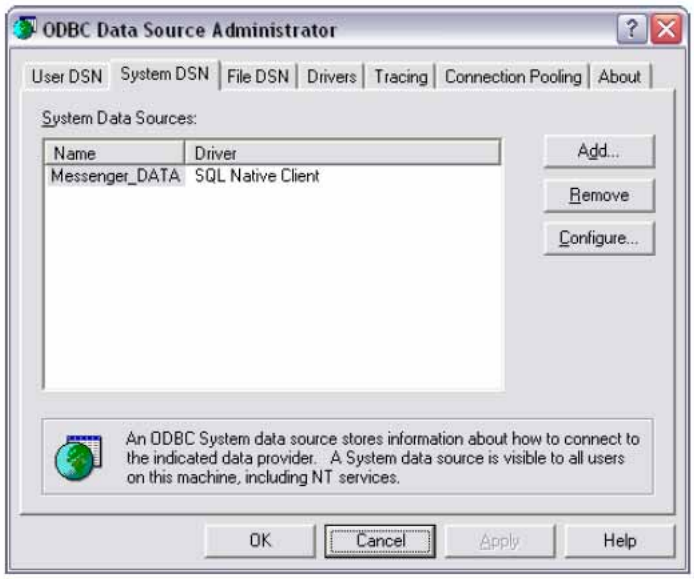

10 Click **Cancel**.

--End--

SQL Server 2000 Desktop Engine

If you use SQL Server 2005 Express, use the steps in the following procedure.

Procedure 35
Using SQL Server 2000 Desktop Engine

Step	Action
1	Launch the **Open Database Connectivity (OBDC) Administrator** tool shown in . Click **Start** on the Windows task bar, and choose **Settings > Control Panel > Administrative Tools > Data Sources (ODBC)**
2	Open the **OBDC Setup** window for Messenger_DATA. • Click the **System DSN** tab. • Click **Add**. The following window appears.

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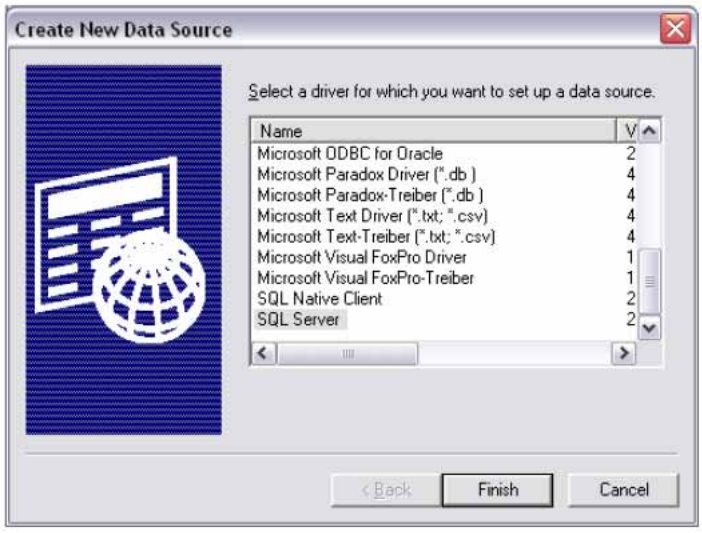
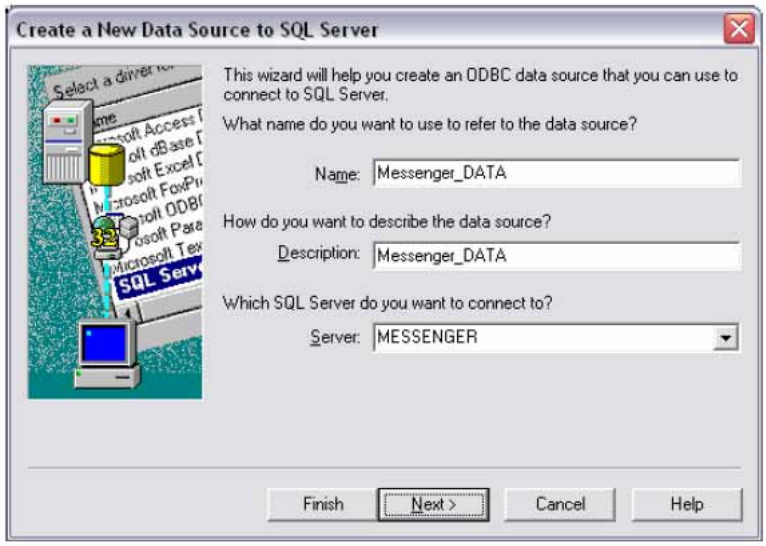


3 Select **SQL Server** and click **Finish**.

The following window appears.


Create a New Data Source to SQL Server
This wizard will help you create an ODBC data source that you can use to connect to SQL Server.
What name do you want to use to refer to the data source?
Name: Messenger_DATA
How do you want to describe the data source?
Description: Messenger_DATA
Which SQL Server do you want to connect to?
Server: MESSENGER
Finish
Next >
Cancel
Help

4 Click **Next**.

The following window appears.

Enter the values as shown.

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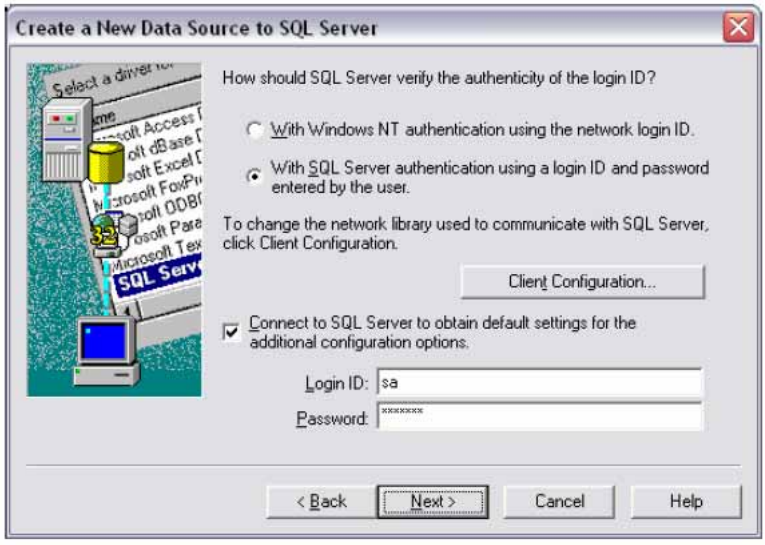
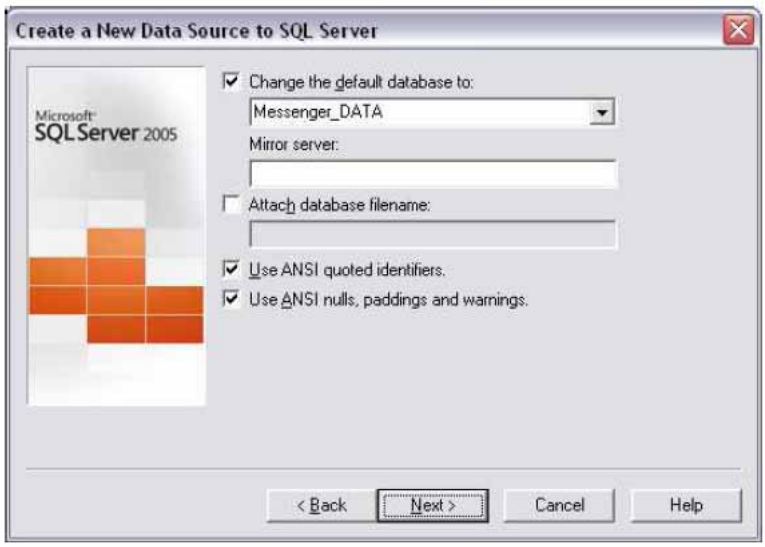

Create a New Data Source to SQL Server
How should SQL Server verify the authenticity of the login ID?
With Windows NT authentication using the network login ID.
With SQL Server authentication using a login ID and password entered by the user.
To change the network library used to communicate with SQL Server, click Client Configuration.
Client Configuration...
Connect to SQL Server to obtain default settings for the additional configuration options.
Login ID: sa
Password: *******
< Back
Next >
Cancel
Help

5 Choose **SQL Server authentication** and enter **sa** and password **sa** and click **Next**.

The following window appears.



6 Select the check box next to **Change the default database to** and select **Messenger_DATA** . Check the other boxes as indicated in the previous figure. Click **Next**.

The following figure appears.

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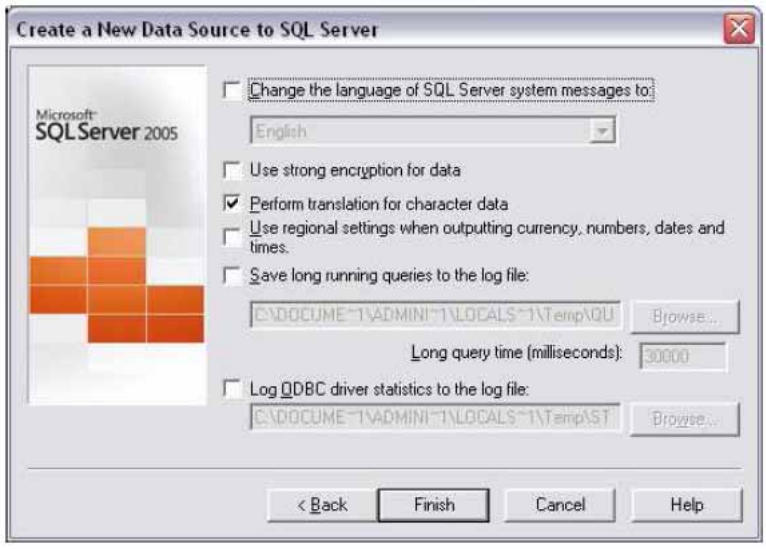
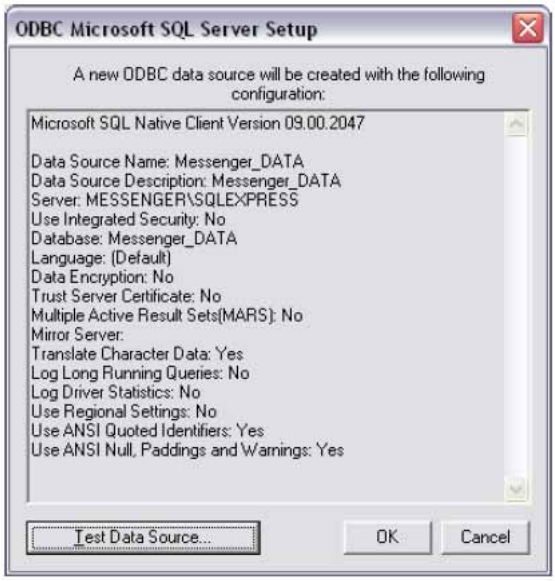


7 Click **Finish**.

The following window appears.


ODBC Microsoft SQL Server Setup
A new ODBC data source will be created with the following configuration:
Microsoft SQL Native Client Version 09.00.2047
Data Source Name: Messenger_DATA
Data Source Description: Messenger_DATA
Server: MESSENGER\SQLEXPRESS
Use Integrated Security: No
Database: Messenger_DATA
Language: (Default)
Data Encryption: No
Trust Server Certificate: No
Multiple Active Result Sets(MARS): No
Mirror Server:
Translate Character Data: Yes
Log Long Running Queries: No
Log Driver Statistics: No
Use Regional Settings: No
Use ANSI Quoted Identifiers: Yes
Use ANSI Null, Paddings and Warnings: Yes
Test Data Source...
OK
Cancel

8 Click **Test Data Source**.

The following window appears.

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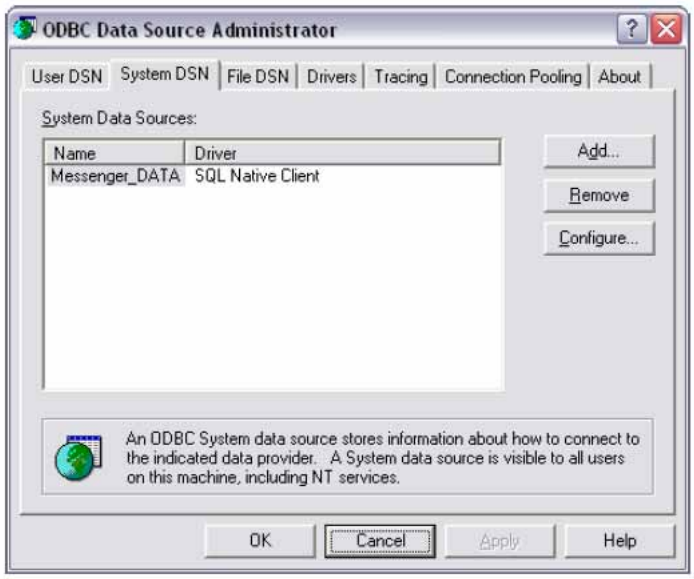
9 Click **OK**.

The following window appears.



10 Click **Cancel**.

--End--

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Installing Apache Web Server 2.0.55

If installing Apache Web Server on a Windows 2000 Server operating system, STOP the default web server before installing Apache, as follows:

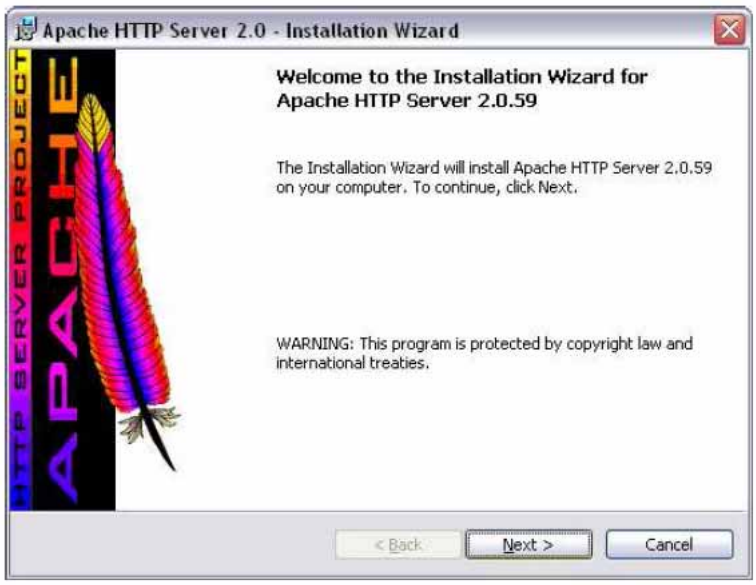
Procedure 36
Installing Apache web server 2.0.55

Step	Action
1	Click **Start** on the Windows task bar, and choose **Settings > Control Panel > Administrative Tools > Internet Services Manager**
2	Right-click **Default Web Site** and choose **Stop**.

--End--

Procedure 37
Installing Apache Web Server

Step	Action
1	Start the installation wizard. • On the CD-ROM, open the folder: **\05 – Web Server\05.01 – Apache HTTP Server\Apache 2.0.55**. • Double-click the file **apache_2.0.55-win32-x86-no_ssl.msi**.
2	Begin the installation. Click **Next**.


Apache HTTP Server 2.0 - Installation Wizard
Welcome to the Installation Wizard for Apache HTTP Server 2.0.59
The Installation Wizard will install Apache HTTP Server 2.0.59 on your computer. To continue, click Next.
WARNING: This program is protected by copyright law and international treaties.
< Back
Next >
Cancel
HTTP SERVER PROJECT
APACHE

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3 Accept the **License Agreement**.

Click **Next**.

Apache HTTP Server 2.0 - Installation Wizard
License Agreement
Please read the following license agreement carefully.
Apache License
Version 2.0, January 2004
http://www.apache.org/licenses/
TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION
1. Definitions.
"License" shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document.
I accept the terms in the license agreement
I do not accept the terms in the license agreement
InstallShield
< Back
Next >
Cancel

4 Review the **Apache** information.

Read the information provided and click **Next**.

Apache HTTP Server 2.0 - Installation Wizard
Read This First
Read this Before Running Apache on Windows.
Apache HTTP Server
What is it?
The Apache HTTP Server is a powerful and flexible HTTP/1.1 compliant web server. Originally designed as a replacement for the NCSA HTTP Server, it has grown to be the most popular web server on the Internet. As a project of the Apache Software Foundation, the developers aim to collaboratively develop and maintain a robust, commercial-grade, standards-based server with freely available source code.
The Latest Version
Details of the latest version can be found on the Apache HTTP server project page under:
http://httpd.apache.org/
InstallShield
< Back
Next >
Cancel

5 Enter **Server Information**.

Enter the domain name, server name and e-mail address.

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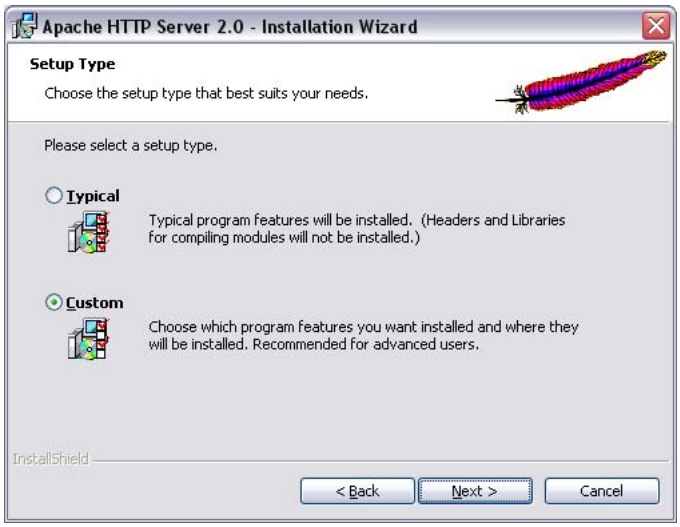
In most cases you can accept the default settings, which are retrieved from the current Windows settings. These values are appropriate for most installations.

If your network administrator chooses tighter integration of DECT Messenger in the existing network, you must adapt your settings to those provided by the network administrator. In the following illustration, the system is defined to be a member of a domain (in this example, ibsbe.be), and is assigned the identifier GNTN1SFMI with indication to append the DNS-suffix ibsbe.be. To find out your network identification and domain name settings, click **Start**, and choose **Settings > Control Panel > System > Network Identification**.

Apache HTTP Server 2.0 - Installation Wizard
Server Information
Please enter your server's information.
Network Domain (e.g. somenet.com)
ibsbe.be
Server Name (e.g. www.somenet.com):
GNTN1SFMI
Administrator's Email Address (e.g. webmaster@somenet.com):
francis.missiaen@ibsbe.be
Install Apache HTTP Server 2.0 programs and shortcuts for:
for All Users, on Port 80, as a Service -- Recommended.
only for the Current User, on Port 8080, when started Manually.
InstallShield
< Back
Next >
Cancel

6 Choose **Setup Type**.

Select **Custom** and click **Next**,


Apache HTTP Server 2.0 - Installation Wizard
Setup Type
Choose the setup type that best suits your needs.
Please select a setup type.
Typical
Typical program features will be installed. (Headers and Libraries for compiling modules will not be installed.)
Custom
Choose which program features you want installed and where they will be installed. Recommended for advanced users.
InstallShield
< Back
Next >
Cancel

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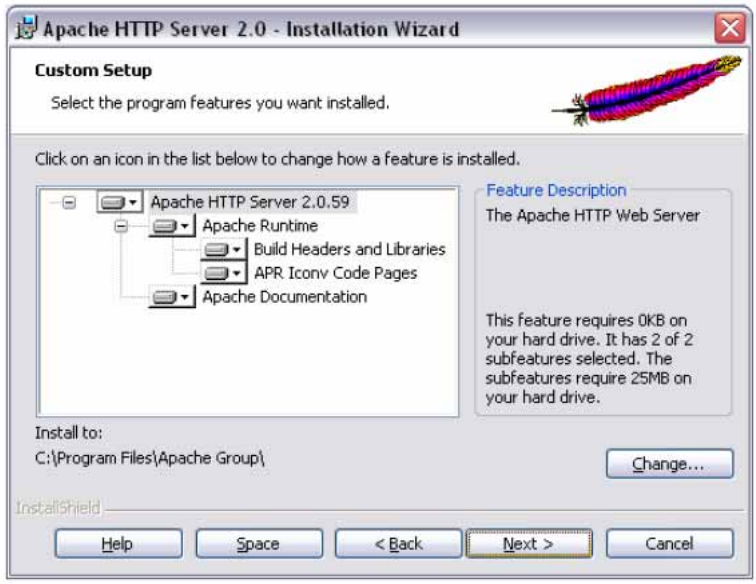
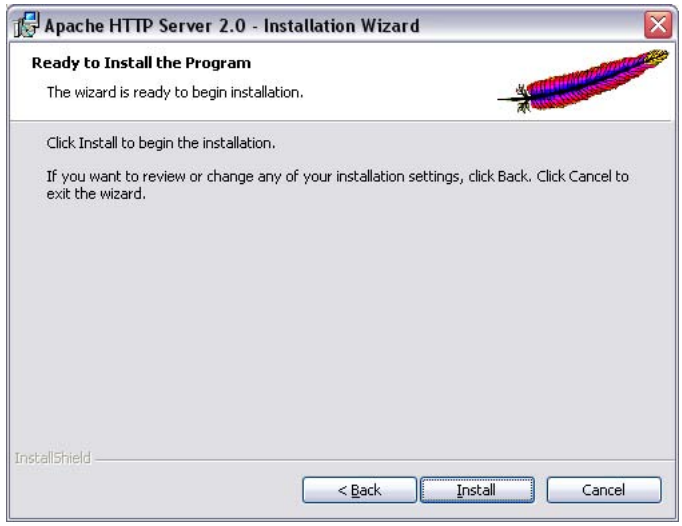
7 Select the features you want to install.

Click **Next** to continue.


Apache HTTP Server 2.0 - Installation Wizard
Custom Setup
Select the program features you want installed.
Click on an icon in the list below to change how a feature is installed.
Apache HTTP Server 2.0.59
Apache Runtime
Build Headers and Libraries
APR Iconv Code Pages
Apache Documentation
Feature Description
The Apache HTTP Web Server
This feature requires 0KB on your hard drive. It has 2 of 2 subfeatures selected. The subfeatures require 25MB on your hard drive.
Install to:
C:\Program Files\Apache Group\
Change...
InstallShield
Help
Space
< Back
Next >
Cancel

8 Begin copying files.

Click **Install** to continue.


Apache HTTP Server 2.0 - Installation Wizard
Ready to Install the Program
The wizard is ready to begin installation.
Click Install to begin the installation.
If you want to review or change any of your installation settings, click Back. Click Cancel to exit the wizard.
InstallShield
< Back
Install
Cancel

9 Acknowledge the completion of the installation.

Click **Finish**.

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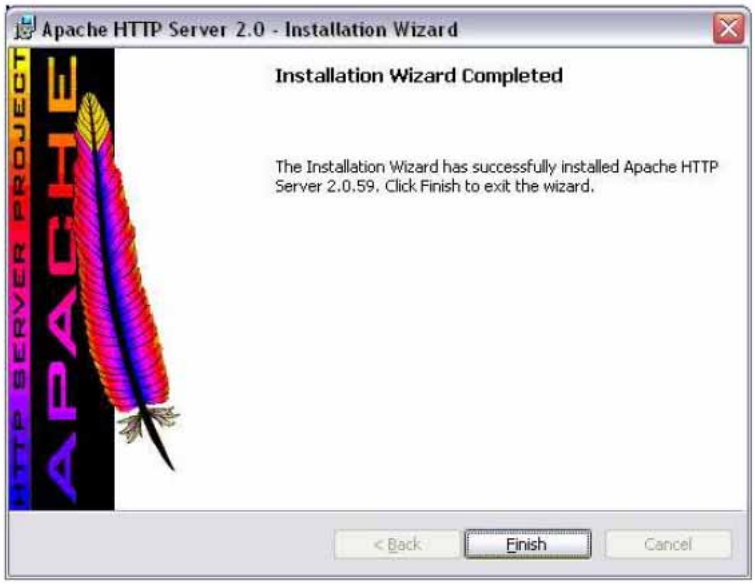
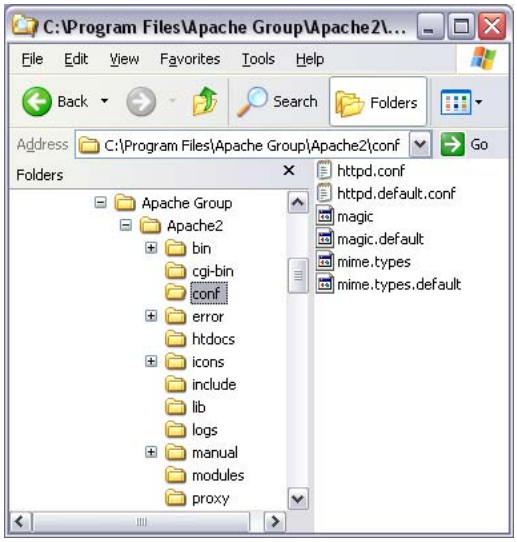

Apache HTTP Server 2.0 - Installation Wizard
Installation Wizard Completed
The Installation Wizard has successfully installed Apache HTTP Server 2.0.59. Click Finish to exit the wizard.
< Back
Finish
Cancel
HTTP SERVER PROJECT
APACHE

--End--

As part of the installation procedure, a number of resources are installed in C:\Program Files\Apache Group\Apache2, as shown in Figure 14 "Resources installed with Apache 2.0" (page 169).

Figure 14
Resources installed with Apache 2.0



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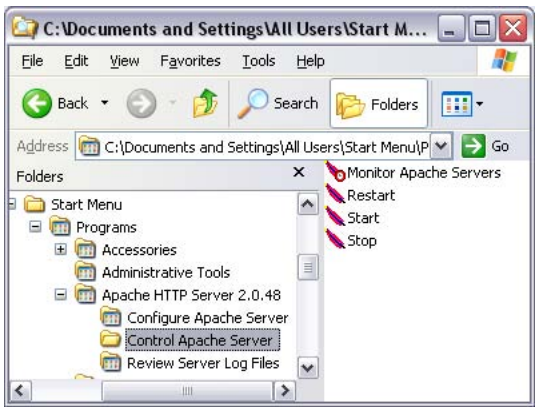
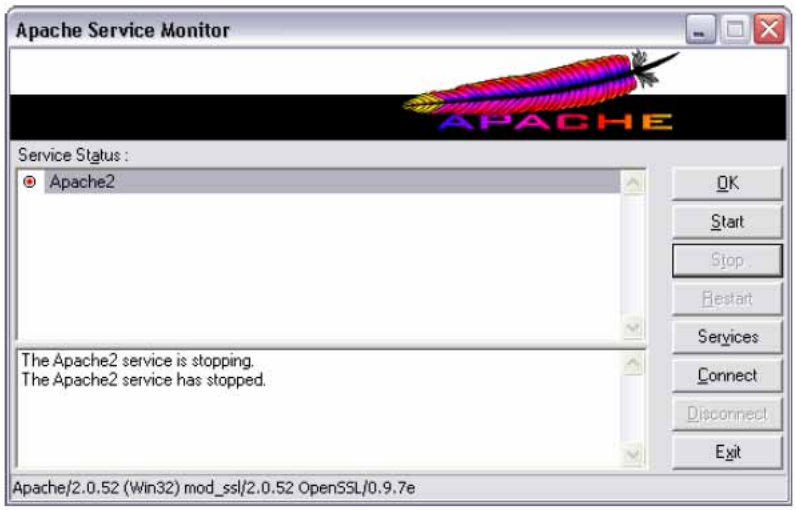
The startup group contains a number of shortcuts, as shown in Figure 15 "Startup items added by Apache 2.0" (page 170), among which **Monitor Apache Servers** is the most important one. This process is also shown as an icon in the system tray of your desktop.

Figure 15
Startup items added by Apache 2.0



Use the Apache Service Monitor tray icon shown in the following figure to stop the Apache HTTP Server.

Figure 16
Apache service monitor tray



Note: Completing the procedure "Installing Apache Web Server 2.0.55" (page 165) installs Apache as a service, with the server name Apache2 as shown in the following figure.

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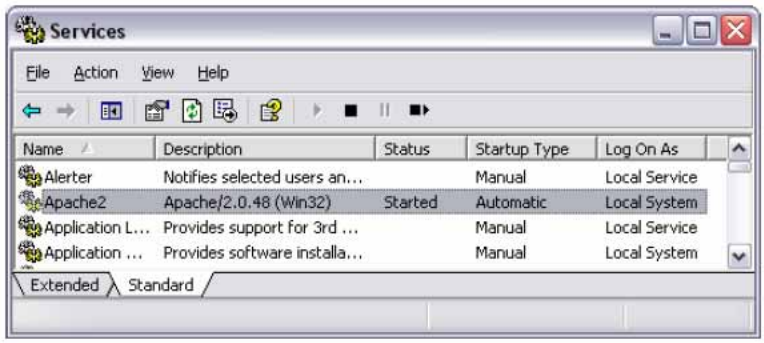
Figure 17
Apache2 as a service


Services
File Action View Help
Name Description Status Startup Type Log On As
Alerter Notifies selected users an... Manual Local Service
Apache2 Apache/2.0.48 (Win32) Started Automatic Local System
Application L... Provides support for 3rd ... Manual Local Service
Application ... Provides software installa... Manual Local System
Extended Standard

Configuring the Apache web server

Step	Action
1	Navigate to **Start > Program Files > Apache HTTP Server 2.0.55 > Configure Apache Server > Edit the Apache httpd.conf Configuration File**.
2	Edit the file and add the statements in the following figure at the end of the file.

```
# ------------------------------------------------------------------
# Begin Messenger@Net configuration
# ------------------------------------------------------------------
ScriptAlias /php/ "c:/program files/apache group/php/"
AddType application/x-httpd-php .php
Action application/x-httpd-php "/php/php-cgi.exe"
DocumentRoot "C:/SOPHO Messenger@Net/Web/htdocs"
DirectoryIndex eWeb_index.php
Alias /mri2909/ "C:/SOPHO Messenger@Net/pdf/mri2909/"
Alias /mri2963/ "C:/SOPHO Messenger@Net/pdf/mri2963/"
Alias /mri2966/ "C:/SOPHO Messenger@Net/pdf/mri2966/"
# ------------------------------------------------------------------
# End Messenger@Net configuration
# ------------------------------------------------------------------
```

3	Use the Apache Service Monitor tray icon to restart the Apache HTTP Server.

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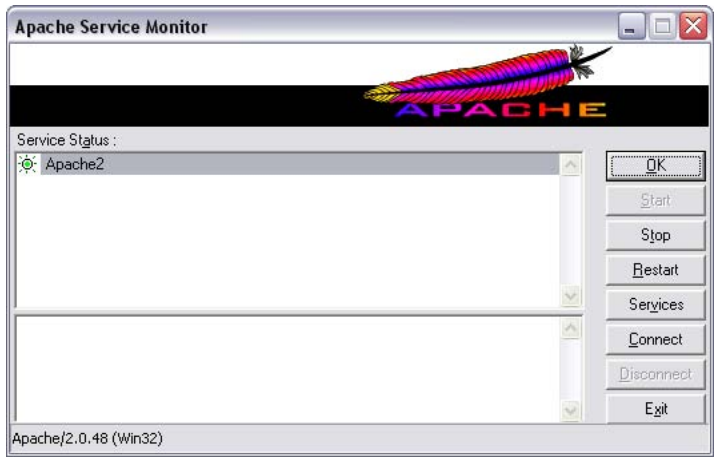

Apache is configured. Go to the next section for instructions on how to install the PHP engine.

--End--

Install PHP

The PHP engine must be installed separately, as follows.

Procedure 38
Installing PHP

Step	Action
1	Start the **PHP installer**. • Browse to the following folder on the CD-ROM: **\05 - Web Server\05.02 – PHP\PHP 5.1.1**. • Double-click **php-5.1.1-installer.exe**.
2	Begin the installation. Click **Next** to continue.

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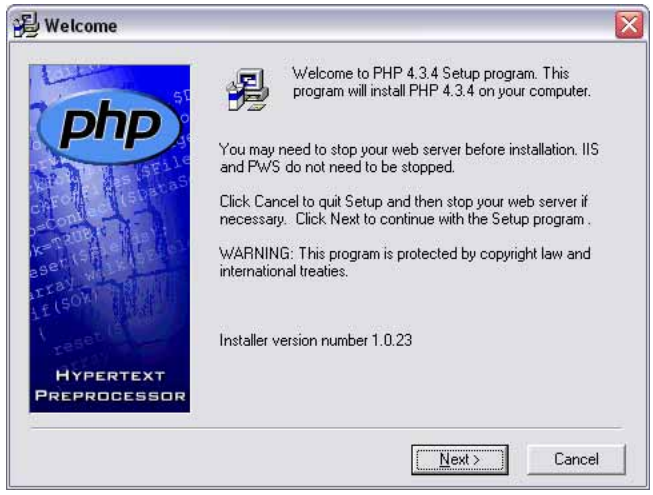
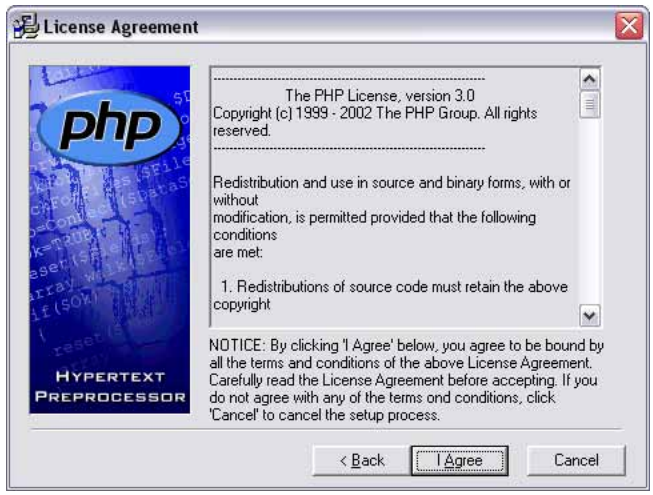

Welcome
Welcome to PHP 4.3.4 Setup program. This program will install PHP 4.3.4 on your computer.
You may need to stop your web server before installation. IIS and PWS do not need to be stopped.
Click Cancel to quit Setup and then stop your web server if necessary. Click Next to continue with the Setup program.
WARNING: This program is protected by copyright law and international treaties.
Installer version number 1.0.23
HYPERTEXT PREPROCESSOR
Next >
Cancel

3 Accept the **License Agreement**.

4 Click **OK**.


License Agreement
The PHP License, version 3.0
Copyright (c) 1999 - 2002 The PHP Group. All rights reserved.
Redistribution and use in source and binary forms, with or without
modification, is permitted provided that the following conditions
are met:
1. Redistributions of source code must retain the above copyright
NOTICE: By clicking 'I Agree' below, you agree to be bound by all the terms and conditions of the above License Agreement. Carefully read the License Agreement before accepting. If you do not agree with any of the terms ond conditions, click 'Cancel' to cancel the setup process.
HYPERTEXT PREPROCESSOR
< Back
I Agree
Cancel

5 Choose the Installation type.

Select **Advanced** and click **Next** to continue.

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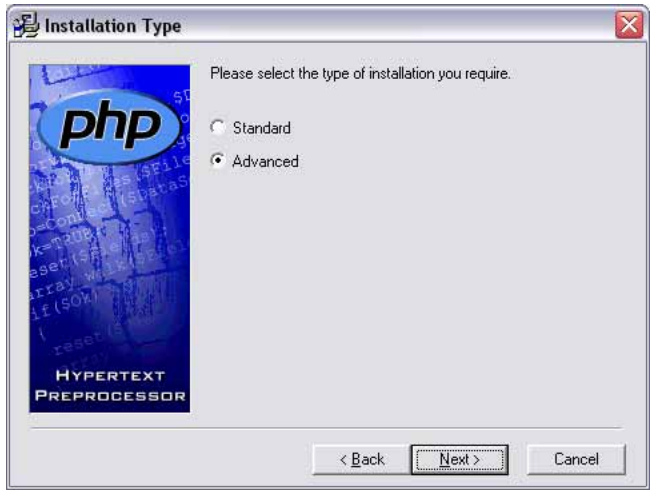
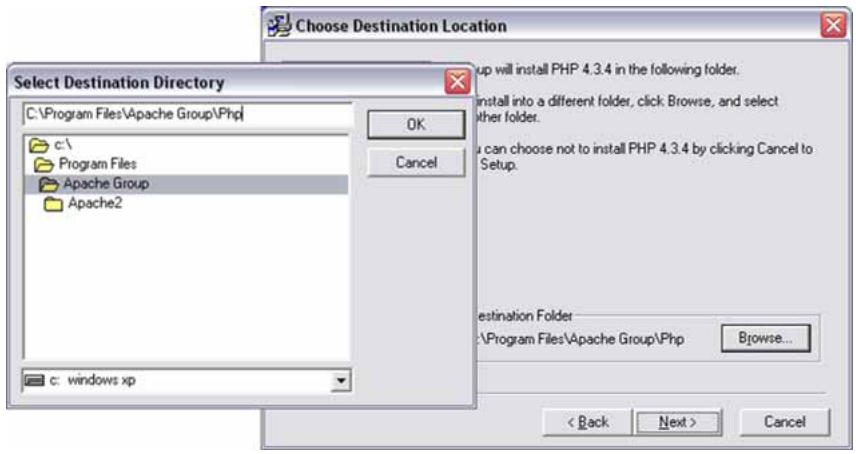


6 Select an install location.

ATTENTION
Do not accept the default location C:\PHP.

- Click **Browse**
- Select the path C:\Program Files\Apache Group\Php as shown in the following illustration:



- This creates a new folder called **Php**.

7 Choose Backup options.

Check **No** and click **Next** to continue.

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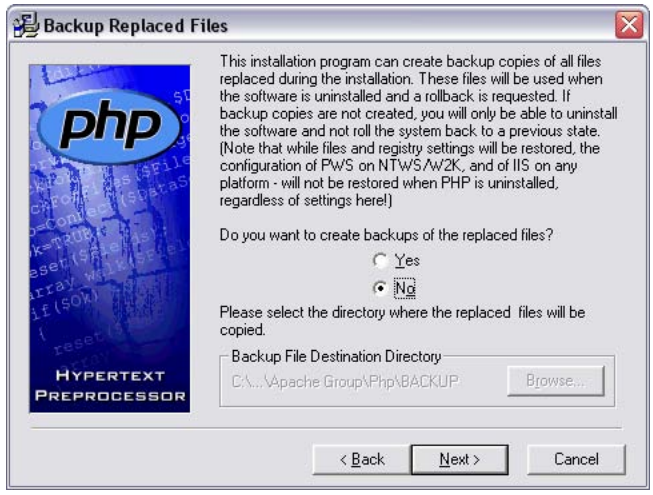
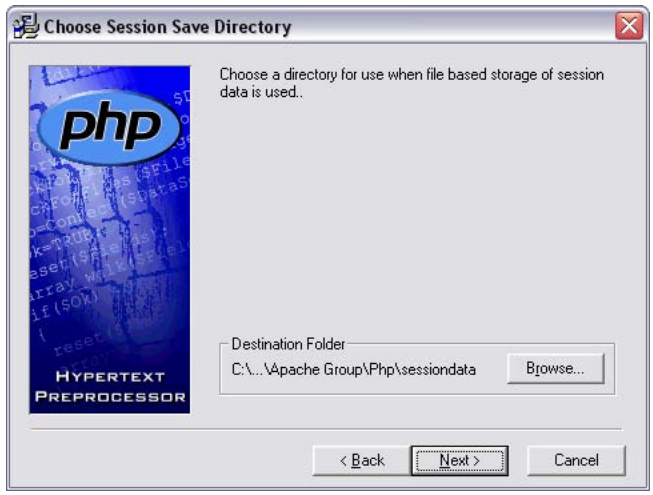

Backup Replaced Files
This installation program can create backup copies of all files replaced during the installation. These files will be used when the software is uninstalled and a rollback is requested. If backup copies are not created, you will only be able to uninstall the software and not roll the system back to a previous state. (Note that while files and registry settings will be restored, the configuration of PWS on NTWS/W2K, and of IIS on any platform - will not be restored when PHP is uninstalled, regardless of settings here!)
Do you want to create backups of the replaced files?
Yes
No
Please select the directory where the replaced files will be copied.
Backup File Destination Directory
C:\...\Apache Group\Php\BACKUP
Browse...
< Back
Next >
Cancel
HYPERTEXT PREPROCESSOR

8 Choose a directory to store session data.

Click **Browse** to specify a directory, and the click **Next** to continue.



9 Specify a temporary directory.

Click **Browse** to specify a directory, and the click **Next** to continue.

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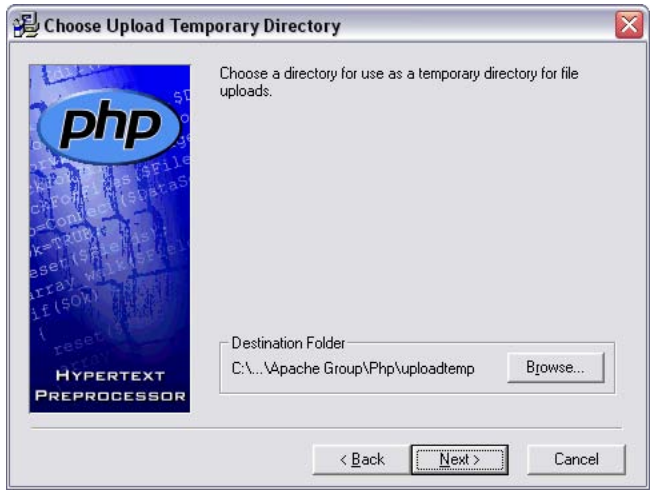

10 Enter mail information.

Enter the IP address and the mail address of the system administrator. You can accept default values, or choose a dummy value if these parameters are not available.

11 Configure error reporting.

Check the level of error reporting you prefer, and click **Next** to continue.

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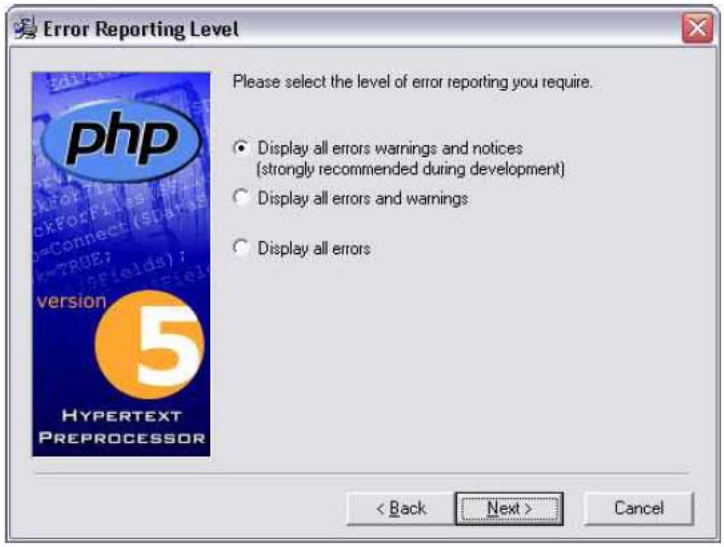
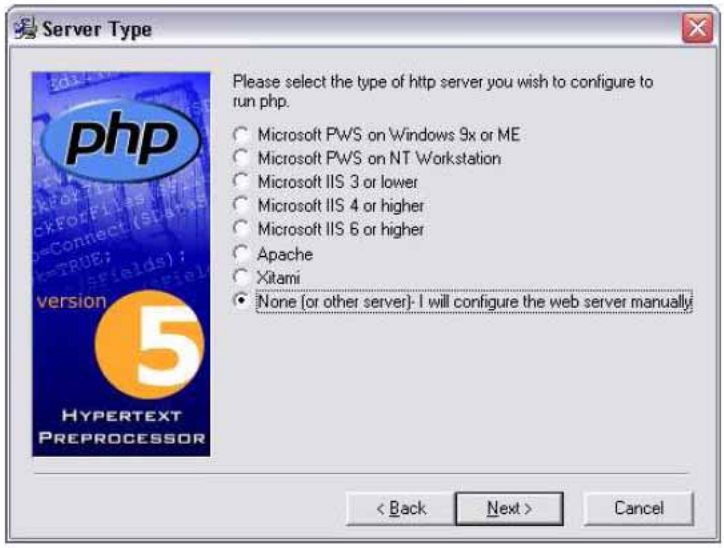

Error Reporting Level
Please select the level of error reporting you require.
Display all errors warnings and notices
(strongly recommended during development)
Display all errors and warnings
Display all errors
< Back
Next >
Cancel

12 Select the type of http server you wish to run PHP.

Check **None** and click **Next** to continue.


Server Type
Please select the type of http server you wish to configure to run php.
Microsoft PWS on Windows 9x or ME
Microsoft PWS on NT Workstation
Microsoft IIS 3 or lower
Microsoft IIS 4 or higher
Microsoft IIS 6 or higher
Apache
Xitami
None (or other server) - I will configure the web server manually
< Back
Next >
Cancel

13 Select file extensions.

Select the file extensions you wish to associate with PHP, and click **Next** to continue.

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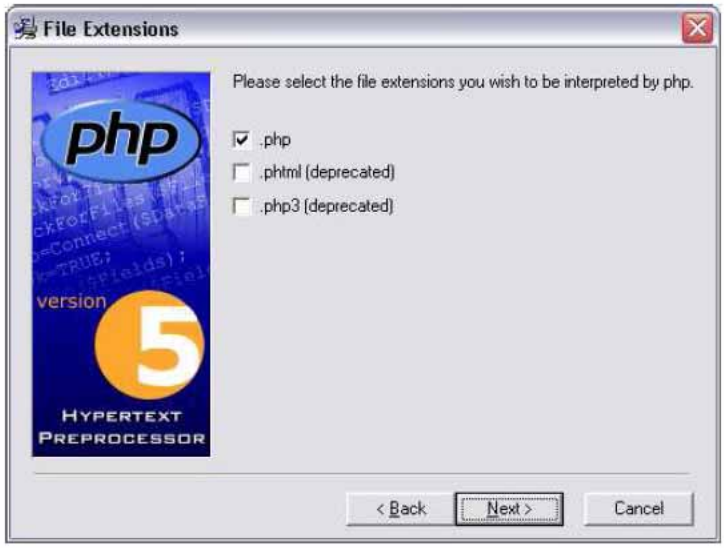
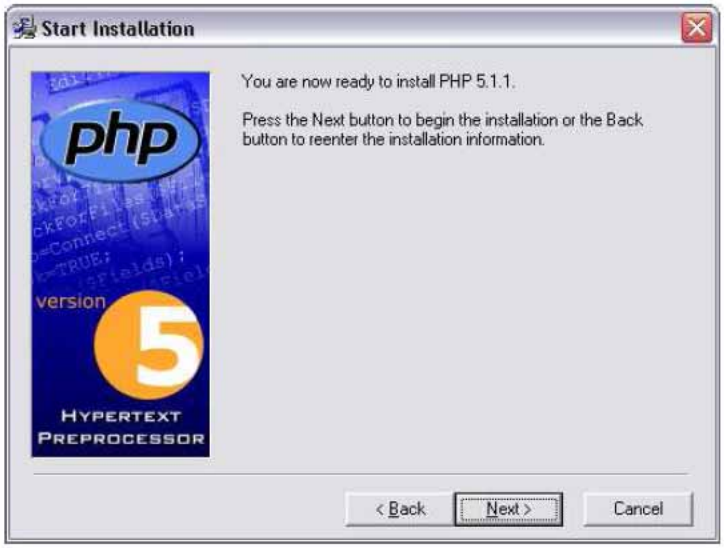


14 Begin copying files.

Click **Next** to confirm your choices and begin copying files.


Start Installation
You are now ready to install PHP 5.1.1.
Press the Next button to begin the installation or the Back button to reenter the installation information.
< Back
Next >
Cancel

15 Discard old configuration data.

The following error message appears if a previous version of PHP is installed:

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- Choose **No** to prevent using old configuration data.

16 Acknowledge completion of the installation.

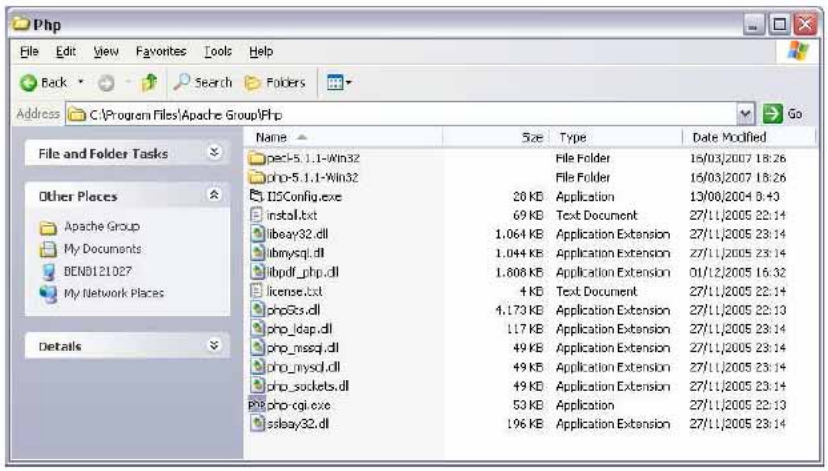
Click **OK** to continue.

Installation complete
PHP 5.1.1 has been successfully installed.
Press the OK button to exit this installation.
NT users may need to set appropriate permissions for the various php files and directories. Usually IUSR_MachineName (or the user your web server runs as) will need read access to php.ini, read write access to the uploadtmp and session directories, and execute access for php-cgi.exe and php5ts.dll.
OK

--End--

The PHP install process also creates a number of resources in C:\Program Files\Apache\Php as shown in Figure 18 "Resources installed by PHP" (page 179).

Figure 18
Resources installed by PHP


Php
File Edit View Favorites Tools Help
Back Search Folders
Address C:\Program Files\Apache Group\Php
Go
File and Folder Tasks
Other Places
Apache Group
My Documents
BEND121027
My Network Places
Details
Name Size Type Date Modified
pecl-5.1.1-Win32 File Folder 16/03/2007 18:26
php-5.1.1-Win32 File Folder 16/03/2007 18:26
IISConfig.exe 28 KB Application 13/08/2004 8:43
install.txt 69 KB Text Document 27/11/2005 22:14
libeay32.dll 1,064 KB Application Extension 27/11/2005 23:14
libmysql.dll 1,044 KB Application Extension 27/11/2005 23:14
libpdf_php.dll 1,808 KB Application Extension 01/12/2005 16:32
license.txt 4 KB Text Document 27/11/2005 22:14
php5ts.dll 4,173 KB Application Extension 27/11/2005 22:13
php_ldap.dll 117 KB Application Extension 27/11/2005 23:14
php_mssql.dll 49 KB Application Extension 27/11/2005 23:14
php_mysql.dll 49 KB Application Extension 27/11/2005 23:14
php_sockets.dll 49 KB Application Extension 27/11/2005 23:14
php-cgi.exe 53 KB Application 27/11/2005 22:13
ssleay32.dll 196 KB Application Extension 27/11/2005 23:14

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Configuring PHP

A configuration file named php.ini is also created in the Windows directory, usually C:\Windows.

Note: In the configuration file, the semicolon (;) denotes a comment.

Procedure 39
Configuring PHP to support DECT Messenger

Step	Action
1	Double-click on the **PHP.ini** file to open it in your editor of choice, for example Notepad.
2	Look in the file for the **max_execution_time** keyword.

```
;;;;;;;;;;;;;;;;;;;
; Resource Limits ;
;;;;;;;;;;;;;;;;;;;

 max_execution_time = 30     ; Maximum execution time of each script,
                                                          in seconds
```

3	Specify 45 instead of the default value of 30.

```
;;;;;;;;;;;;;;;;;;;
; Resource Limits ;
;;;;;;;;;;;;;;;;;;;

 max_execution_time = 45     ; Maximum execution time of each script,
                                                          in seconds
```

4	Locate the keyword **register_globals**. Set this parameter to the value **On** instead of default value **Off**, as shown in the following figure.

```
;register_globals = Off
register_globals = On
```

5	Locate the keywords **error_reporting**. Set this parameter to the value **error_reporting = E_ALL & ~E_NOTICE & ~E_WARNING** as illustrated in the following figure (the symbol **;** denotes comments).

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```
;    - Show all errors, except for notices
;
;error_reporting = E_ALL & ~E_NOTICE
;
;    - Show only errors
;
;error_reporting = E_COMPILE_ERROR|E_ERROR|E_CORE_ERROR
;
;    - Show all errors except for notices
;
;error_reporting  = E_ALL; display all errors, warnings and notices
error_reporting = E_ALL & ~E_NOTICE & ~E_WARNING
```

6 Save the file and close the Notepad editor and Windows Explorer.

--End--

The Apache Web Server and PHP are installed and started.

If you have configured the DECT Messenger database, you can now test the eWEB application. This requires configuration of the eWEB-related tables: eWEB, eWEB_TOC, eWEB_USER_AUTH, and others.

Testing module eWEB You can verify that the web server is running by starting Internet Explorer and typing the URL http://messenger/ez_index.php. If the web server is working correctly, the window shown in Figure 19 "Verifying that the web server is running" (page 182) appears.

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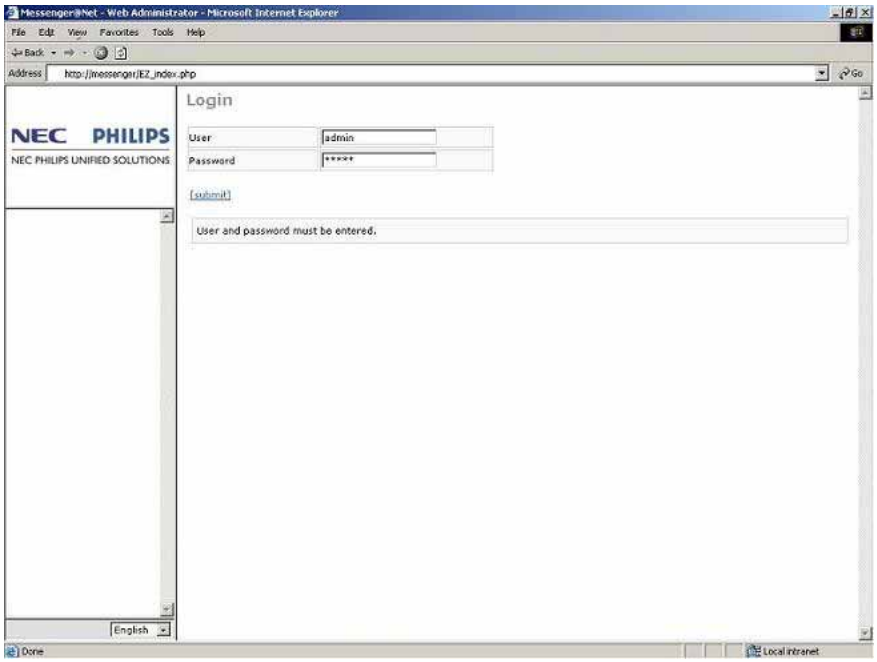
Figure 19
Verifying that the web server is running



Testing module Web Administrator You can verify that the web server is running by starting Internet Explorer and typing the URL http://messenger/ez_index.php. If the web server is working correctly, the next window appears.

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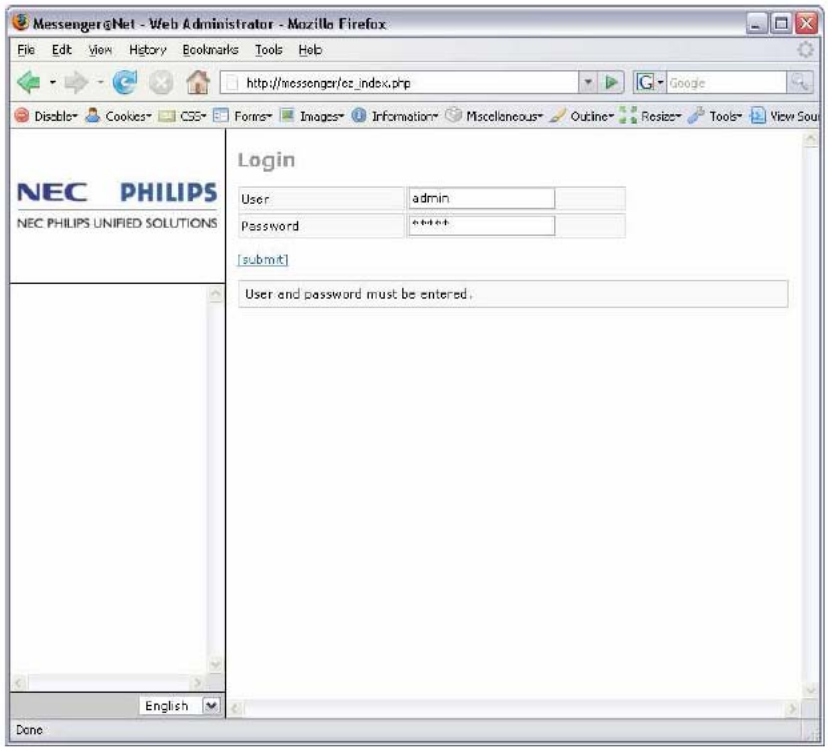

You can now return to the remaining steps described in “General - Install PC” (page 11).

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Install PC - Step 5 - eSMTP_Server

This chapter provides information on the following subjects:

- "Installing the Microsoft SMTP service component" (page 185)
- "Configuring the Microsoft SMTP service" (page 187)

Installing the Microsoft SMTP service component

The SMTP Service component is shipped with Windows 2000. The SMTP server is part of the Windows component Internet Information Server. Check to see if the SMTP Service is already installed by following the steps, and install the service if necessary:

Procedure 40
Installing the SMTP Service

Step	Action
1	Open Add/Remove Programs. Click **Start** and choose **Settings > Control Panel > Add/Remove programs**.
2	Open the **Add/Remove Windows Components** window. Click **Add/Remove Windows Components**.
3	Select **Internet Information Service (IIS)** and open the **Details** window. • Select the **Internet Information Service (IIS)** check box to indicate you need this component. • Click **Details**.

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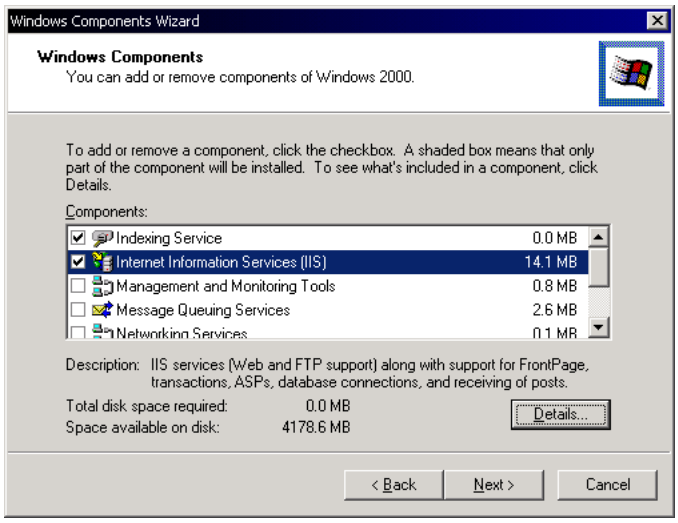
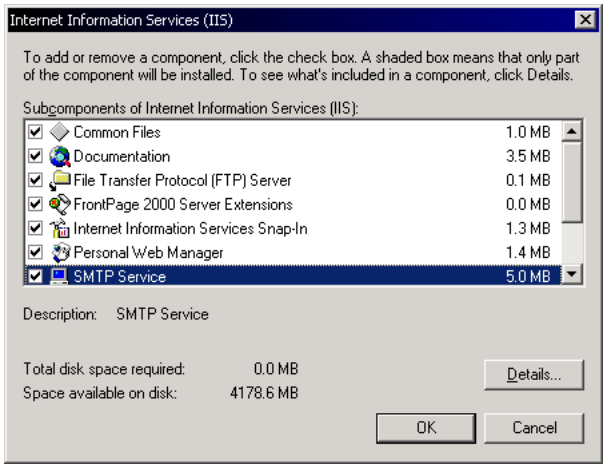

Windows Components Wizard
Windows Components
You can add or remove components of Windows 2000.
To add or remove a component, click the checkbox. A shaded box means that only part of the component will be installed. To see what's included in a component, click Details.
Components:
Indexing Service 0.0 MB
Internet Information Services (IIS) 14.1 MB
Management and Monitoring Tools 0.8 MB
Message Queuing Services 2.6 MB
Networking Services 0.1 MB
Description: IIS services (Web and FTP support) along with support for FrontPage, transactions, ASPs, database connections, and receiving of posts.
Total disk space required: 0.0 MB
Space available on disk: 4178.6 MB
Details...
< Back
Next >
Cancel

4 Select **SMTP Service**

Choose one of the following:

- If SMTP Service is not already checked, select the corresponding check box to select the SMTP Service.
- If the box is already checked, the SMTP service is already installed, and you can proceed to Procedure 41 “Configuring the SMTP Service” (page 187).

Note: In the following illustration of the IIS window, other components (such as File Transfer Protocol (FTP) server, and so on) are shown but are *not* required for the DECT Messenger eSMTP_server module.


Internet Information Services (IIS)
To add or remove a component, click the check box. A shaded box means that only part of the component will be installed. To see what's included in a component, click Details.
Subcomponents of Internet Information Services (IIS):
Common Files 1.0 MB
Documentation 3.5 MB
File Transfer Protocol (FTP) Server 0.1 MB
FrontPage 2000 Server Extensions 0.0 MB
Internet Information Services Snap-In 1.3 MB
Personal Web Manager 1.4 MB
SMTP Service 5.0 MB
Description: SMTP Service
Total disk space required: 0.0 MB
Space available on disk: 4178.6 MB
Details...
OK
Cancel

5 Begin copying files

Click **OK**, and then **Next** to confirm your selections and begin copying files.

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6 Acknowledge the completion of the installation.

Click **Finish**.

--End--

Configuring the Microsoft SMTP service

Once the SMTP service is installed, you can tailor the parameters to your own preferences. Procedure 41 “Configuring the SMTP Service” (page 187) illustrates some of the configuration settings that you can define. For more information on these settings, see the Microsoft web site at http://www.microsoft.com.

Procedure 41
Configuring the SMTP Service

Step	Action
1	Open the **IIS** window. Click **Start** and choose **Settings > Control Panel > Administrative Tools > Internet Service Manager**
2	Review the information provided in the **IIS** window. ***Note:*** In the following illustrations, the name GNTN1SFMI is the name of the PC used to capture the illustration. Your system shows the name of your own PC. One or more services are shown, depending on the installed components:

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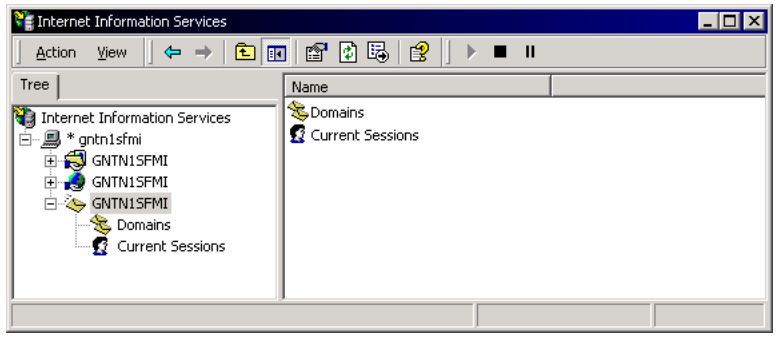
- the folder icon refers to the FTP service (if installed).
- the globe icon refers to the web server (if installed).
- the letter icon refers to the SMTP service.



3 Open the **Properties** window for the SMTP Service

- Highlight the SMTP Service, indicated with the letter icon, and right-click.
- Select **Properties** from the pop-up menu.

4 Set parameters on the General tab.

Use the **General** tab to maintain general parameters. For example, use the following steps to disable logging by clearing the **Enable logging** check box.

Enter the following:

- SMTP virtual server
- IP address
- connection type

By default, the SMTP virtual server can respond to connection requests for all IP addresses configured on the computer.

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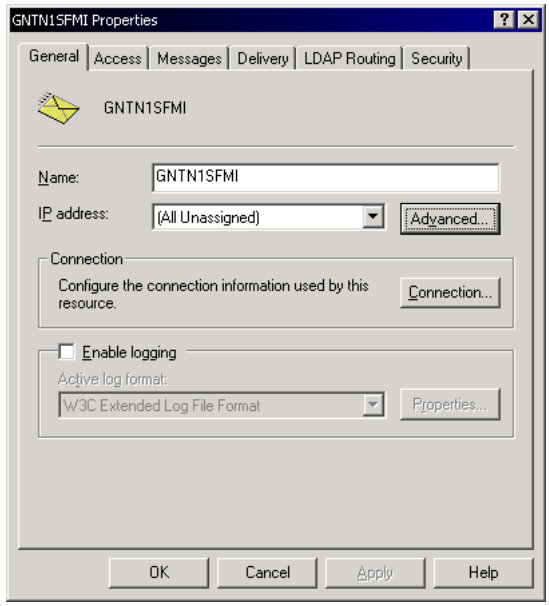
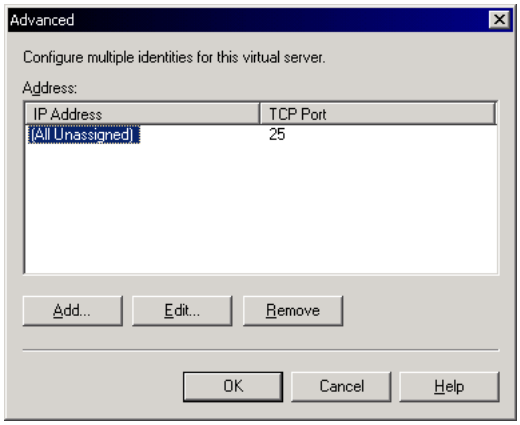


5 Access **Advanced** settings.

Click **Advanced** to specify the port the SMTP service listens to (leave this value at the default (25) for most environments).



6 Access the **Connections** window.

Click **Connection...** to configure incoming and outgoing connections on this SMTP virtual server. Set the following:

- Limit connections
- Time-out
- Limit connections for each domain
- TCP port

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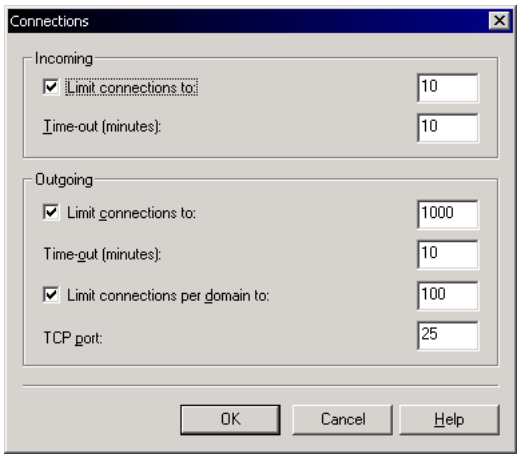
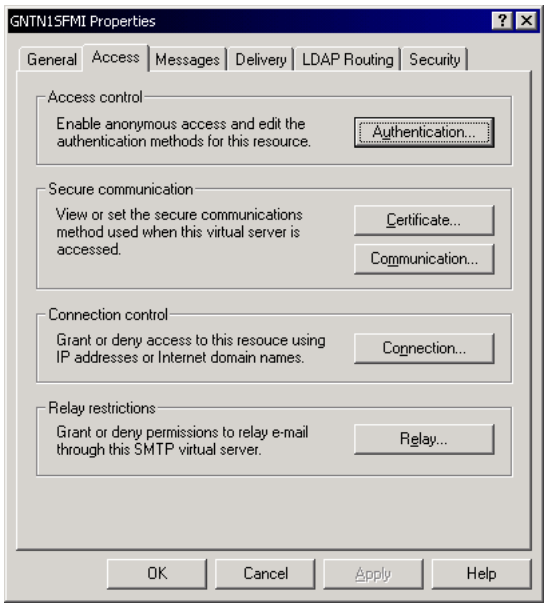


7 Set options on the Access tab.

Use the **Access** tab to configure client access to the SMTP virtual server and to establish transmission security.

- Use **Access control** to configure Microsoft SMTP Service to allow anonymous access or to prompt users for a username and password.
- Use **Secure communication** to set security for the virtual server once access has been granted.
- Use **Connection control** to grant or deny use of the virtual server to specific users or groups.
- Use **Relay restrictions** to block relay access to the virtual server, thus preventing processing of unwanted mail.



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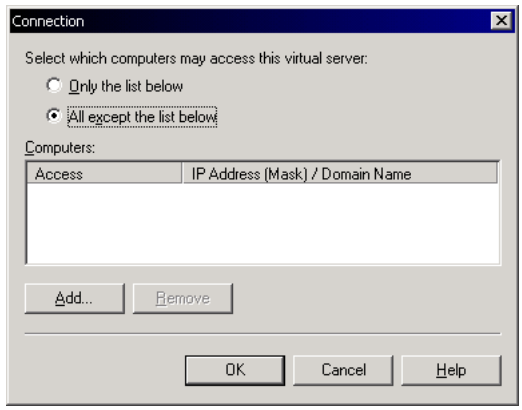
8 Set Connection control options.

Use these options to limit access to the SMTP virtual server by client IP address or domain name.

You can grant access to all computers, and then make exceptions to this rule by denying access to specific computers. Alternatively, if you deny access to all computers, you still can grant access to specific computers.



9 Set Relay restrictions.

Use these options to limit by client IP address or domain name those computers allowed to relay mail through this virtual server.

You can grant relaying to all computers and then make exceptions to this rule by denying relay access to specific computers. Alternatively, if you deny relay access to all computers, you still can grant relay access to specific computers.

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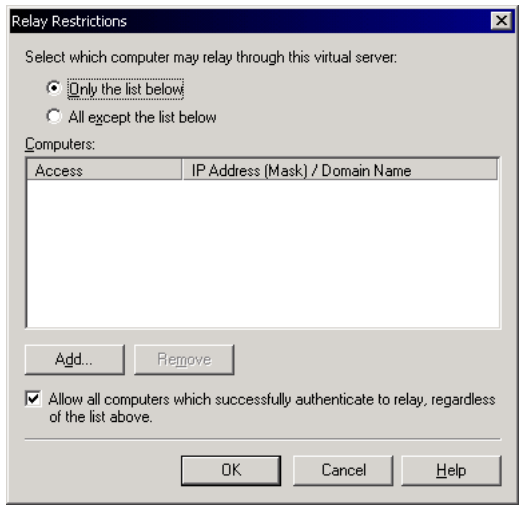

Note: If your virtual server is on the Internet, Nortel does not recommend relaying, as the virtual server can end up propagating unsolicited commercial e-mail.

10 Set options on the Messages tab.

When a connection is open, and the receiving server is ready to receive data, the system can transmit messages.

Use the **Messages** tab to determine transmission requirements and limits:

- limit message size
- limit session size
- limit number of messages for each connection
- limit number of recipients for each message
- send a copy of Non-Delivery report
- locate Badmail directory.

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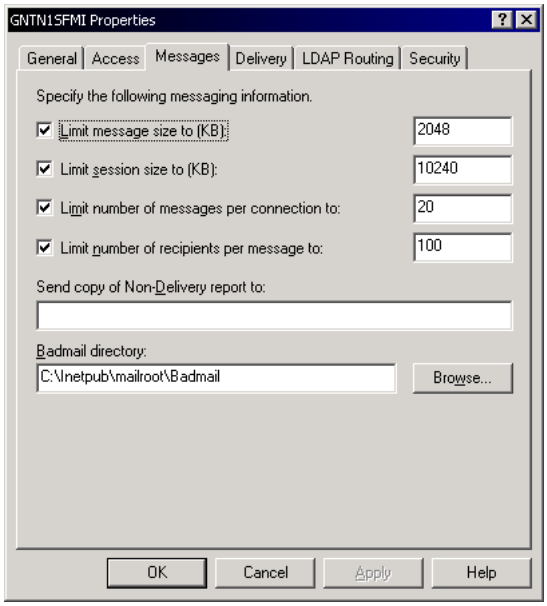

11 Set options on the Delivery tab.

When a connection is open, and the receiving server has is ready to receive data, the system can transmit messages. Use the **Delivery** tab to set all delivery and routing options. This includes:

- setting retry intervals for delivering messages,
- limiting the number of hops to servers during delivery,
- identifying a masquerade domain name to display in the From line instead of the sender's original domain name,
- first retry interval, second retry interval, third retry interval,
- subsequent retry interval,
- delay notification,
- expiration timeout,
- other options available through Outbound Security and Advanced.

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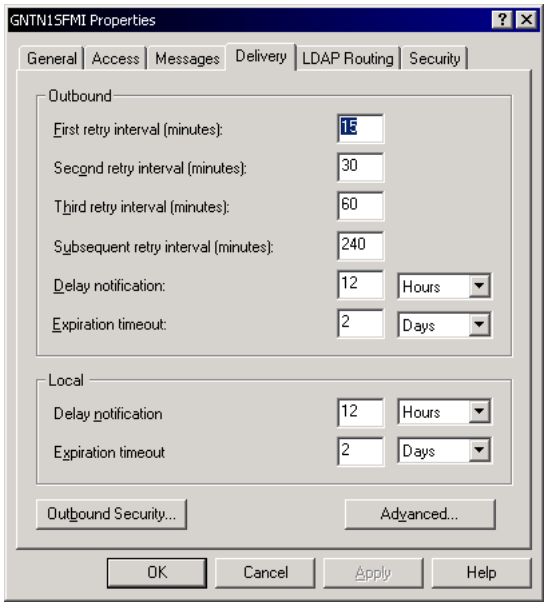
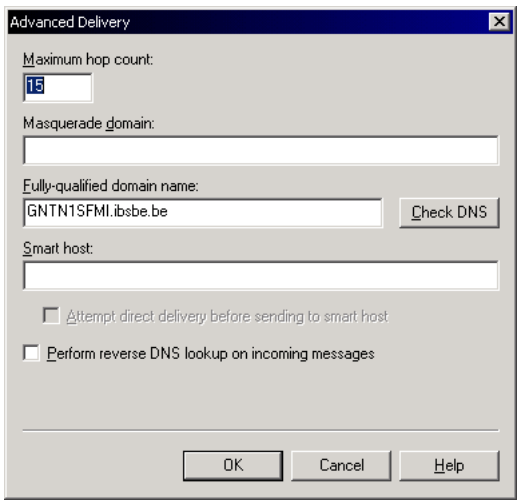


12 Set Advanced Delivery options.

Click **Advanced** to open the Advanced Delivery dialog box. Use this window to set routing options on your SMTP virtual server:

- maximum hop count,
- masquerade domain,
- fully-qualified domain name,
- smart host,
- attempt direct delivery before sending to smart host,
- perform reverse DNS lookup on incoming messages.



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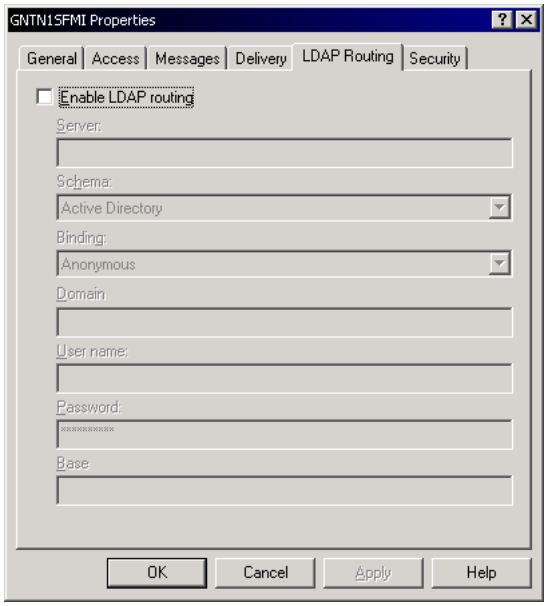
13 Set directory services server properties on the LDAP Routing tab.

Use the **LDAP Routing** tab to specify the identity and properties of the directory services server used for this SMTP virtual server. The directory services store information about mail clients and their mailboxes. The SMTP virtual server uses Lightweight Directory Access Protocol (LDAP) to communicate with the directory services.

You can configure Microsoft SMTP Service to consult an LDAP server to resolve senders and recipients. For example, you can use the Windows 2000 Active Directory as an LDAP server, and use Active Directory Users and Computers to create a group mailing list that is automatically expanded on the SMTP virtual server.

- To activate LDAP Routing, select the Enable LDAP routing check box.
- Configure the following fields: server, schema, binding, domain, username, password, and base.



14 Give users or groups operator status.

Use the **Security** tab to add Microsoft Windows accounts and groups to the list of SMTP virtual server operators.

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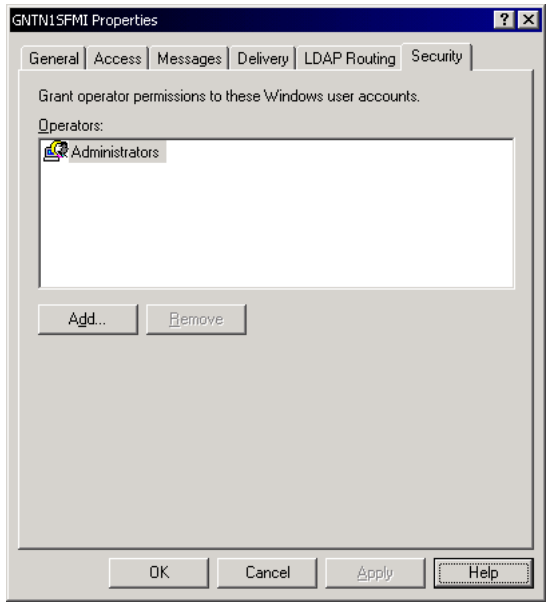
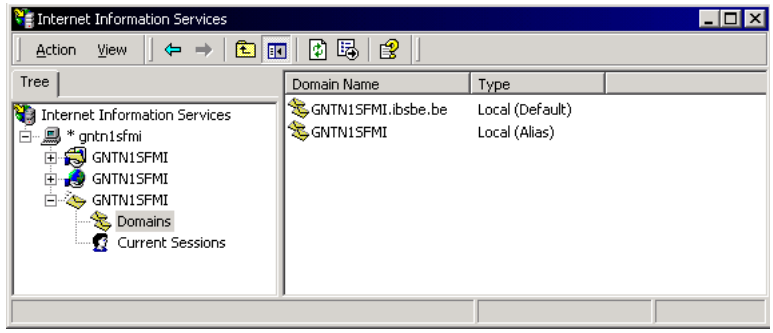


15 Access domain configuration options.

The SMTP virtual server has at least one domain: the Local (default) domain.

- Highlight the domain name and right-click to open the pop-menu. Choose **Properties** to open the **Properties** window.



You can add more domains and configure them as local or remote. You can delete any domain that you create, but you cannot delete the default domain.

Domain configuration options depend on whether the domain is a Local Domain or a Remote Domain.

16 Set drop directory for Local Domains.

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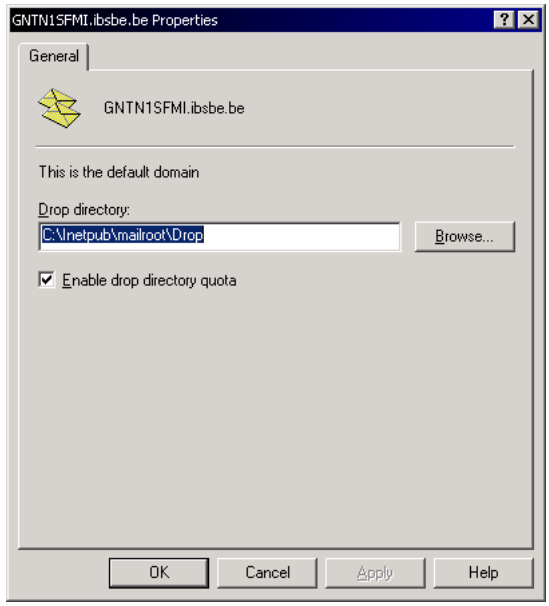
For local default domains, you can set the **drop directory**.

- Click **Browse** and choose the location where you wish set the drop directory.

The drop directory is used in the DECT Messenger configuration of the eSMTP_SERVER table. In most cases, the default value `C:\Inetpub\mailroot\Drop` is used.



--End--

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Install PC - Step 6 - eCONFIG

This chapter provides information on the following subjects:

- "Installing eCONFIG" (page 200)
- "Using eCONFIG" (page 203)
- Procedure 45 "Editing eCONFIG.ini" (page 206)

Before you begin

Follow the steps in the next procedure before you install Nortel DECT Messenger eCONFIG.

Procedure 42
Pre-installation of Nortel DECT Messenger eCONFIG

Step	Action
1	Complete the steps in "General - Install PC" (page 11).
2	Install DECT Messenger and all the prerequisite actions that are described in "Install PC - Step 2 - Nortel DECT Messenger" (page 95).
3	Configure the **eKERNEL** module to provide an online TCP/IP socket connection between the eCONFIG module and eKERNEL

--End--

ATTENTION
DECT Messenger and all associated modules require the Nortel License Manager to be installed, and require a valid license key for the dongle to unlock the functionality of the software. Refer to "Install PC - Step 1e - License Manager" (page 39) for the license manager installation procedure; the readme.txt file in that same directory contains more information.

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ATTENTION
The installation procedure assumes you are installing from a CD-ROM, or a CD image of the product. This means the \07 - Configurator folder must reside in the root of the drive (usually drive D:). Installation from a subdirectory or a network drive is not supported, and can result in the error "Could not find enough disk space for extracting files". If you must install from a network resource, share the directory, and map the shared directory to a network drive, so that the folder \07 - Configurator resides in the root of the network drive.

Installing eCONFIG

Installation files are located on the CD-ROM in directory \07 - Configurator.

ATTENTION
Branding notice
Two versions of the installation program are available. If you are running in a Nortel environment, the Nortel version must be used.

Procedure 43
Installing eCONFIG

Step	Action
1	Launch the installation program. Navigate to the CD-ROM folder **07 – Configurator**. Double-click the file name **eCONFIG_NORTEL_R4.0.0_2008.04.23.exe**. ***Note:*** The filename contains the release level and the build date. If more than one version is available, install the latest version, unless instructed otherwise.
2	Start the installation. Click **Yes** to begin.
3	Enter the **password**. Enter **wms** in the password field (all lowercase).

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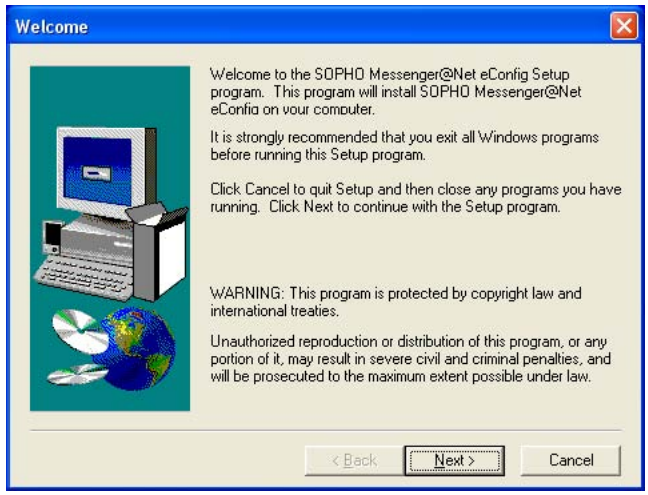
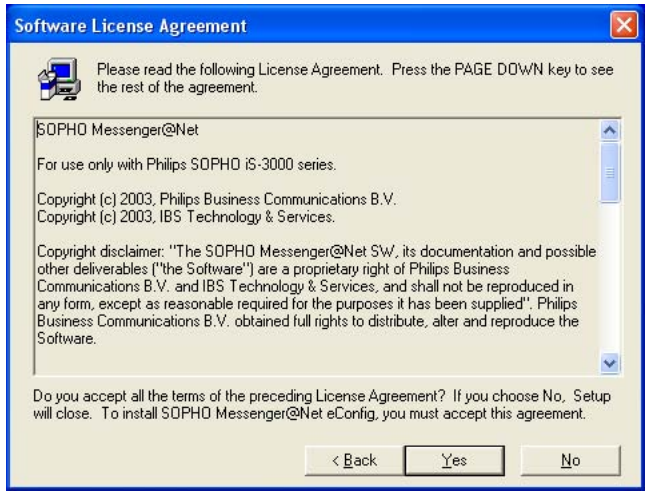
4 Review **Welcome** information

Review the Welcome window information and click **Next** to continue.


Welcome
Welcome to the SOPHO Messenger@Net eConfig Setup program. This program will install SOPHO Messenger@Net eConfig on your computer.
It is strongly recommended that you exit all Windows programs before running this Setup program.
Click Cancel to quit Setup and then close any programs you have running. Click Next to continue with the Setup program.
WARNING: This program is protected by copyright law and international treaties.
Unauthorized reproduction or distribution of this program, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under law.
< Back
Next >
Cancel

5 Accept the **License Agreement**.

Review the License Agreement, and click **Yes** to continue.


Software License Agreement
Please read the following License Agreement. Press the PAGE DOWN key to see the rest of the agreement.
SOPHO Messenger@Net
For use only with Philips SOPHO iS-3000 series.
Copyright (c) 2003, Philips Business Communications B.V.
Copyright (c) 2003, IBS Technology & Services.
Copyright disclaimer: "The SOPHO Messenger@Net SW, its documentation and possible other deliverables ("the Software") are a proprietary right of Philips Business Communications B.V. and IBS Technology & Services, and shall not be reproduced in any form, except as reasonable required for the purposes it has been supplied". Philips Business Communications B.V. obtained full rights to distribute, alter and reproduce the Software.
Do you accept all the terms of the preceding License Agreement? If you choose No, Setup will close. To install SOPHO Messenger@Net eConfig, you must accept this agreement.
< Back
Yes
No

6 Enter name and company information.

Enter name and company information, and click **Next** to continue

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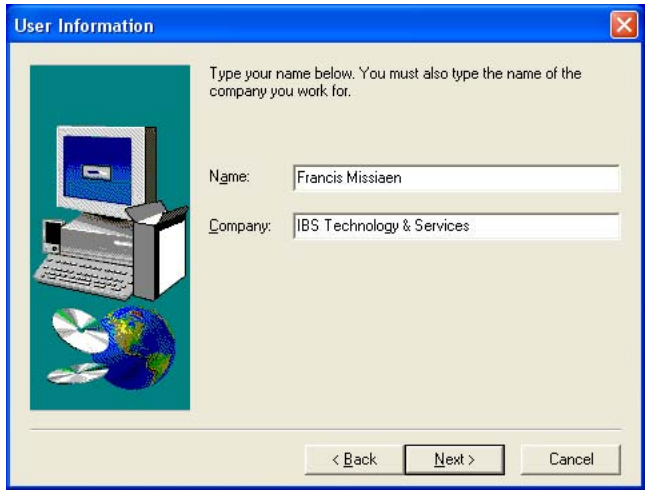
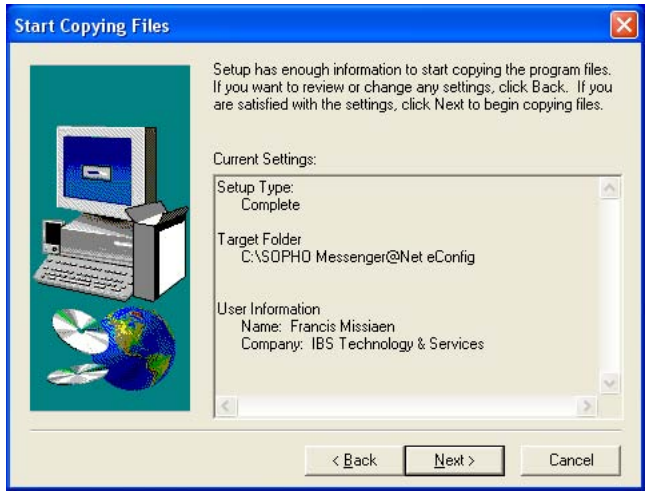


7 Start copying files.

Click **Next** to verify your selections and start copying files.


Start Copying Files
Setup has enough information to start copying the program files. If you want to review or change any settings, click Back. If you are satisfied with the settings, click Next to begin copying files.
Current Settings:
Setup Type:
Complete
Target Folder
C:\SOPHO Messenger@Net eConfig
User Information
Name: Francis Missiaen
Company: IBS Technology & Services
< Back
Next >
Cancel

8 Acknowledge completion of the installation, and reboot your machine if requested.

When the installation is complete, review the information provided, and choose one of the following:

- If the **Setup Complete** window advises you to reboot your PC, do so.
- If no reboot is required, click **Finish** to complete the installation.

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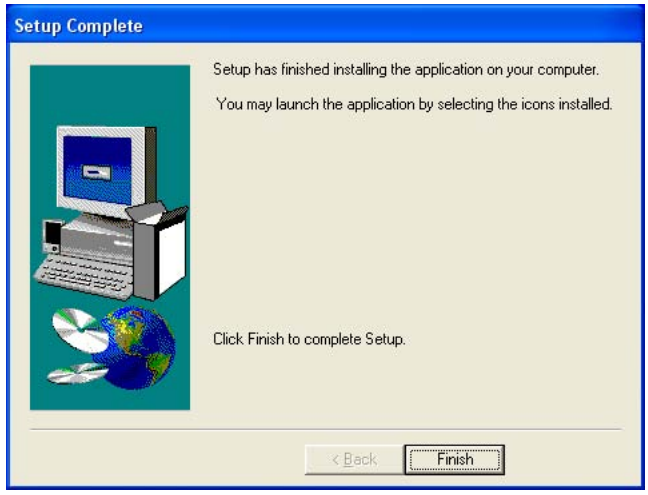
Setup Complete
Setup has finished installing the application on your computer.
You may launch the application by selecting the icons installed.
Click Finish to complete Setup.
< Back
Finish

--End--

Using eCONFIG

After you complete the preceding steps, a shortcut appears on your desktop, as shown in Figure 20 "The Messenger shortcut" (page 203).

Figure 20
The Messenger shortcut

Procedure 44
Accessing properties from the Messenger shortcut

Step	Action
1	Select the **Messenger shortcut** icon, and right-click.
2	Choose **Properties** from the pop-up menu to access the Properties window for this shortcut, as shown in Figure 21 "Messenger icon properties" (page 204).

--End--

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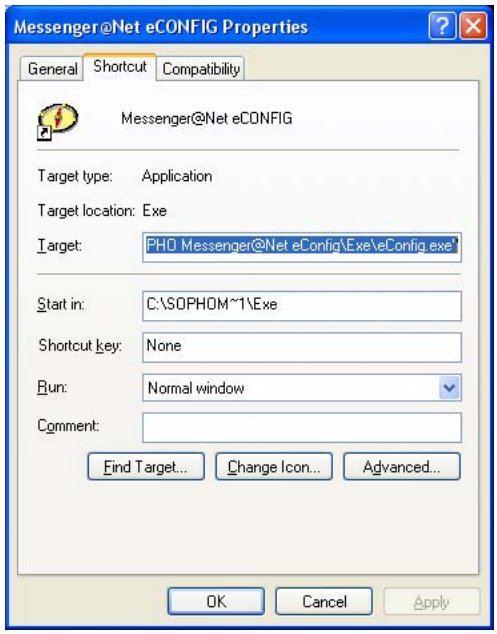
Figure 21
Messenger icon properties

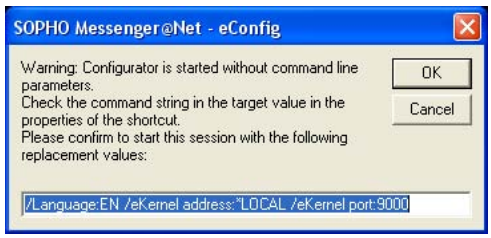


The Target field points to C:\SOPHO Messenger@Net eCONFIG\Exe\eConfig.exe.

Editing startup parameters

If you start the software with this default setting, you are prompted at startup to enter a number of missing parameters, as shown in Figure 22 "Missing parameters prompt" (page 204).

Figure 22
Missing parameters prompt


SOPHO Messenger@Net - eConfig
Warning: Configurator is started without command line parameters.
Check the command string in the target value in the properties of the shortcut.
Please confirm to start this session with the following replacement values:
OK
Cancel
/Language:EN /eKernel address:*LOCAL /eKernel port:9000

eCONFIG is requesting the following parameters:

- eKernel address: the default setting *LOCAL refers to the 127.0.0.1 address, and directs eCONFIG to contact the eKERNEL module on the local system. This default setting is appropriate only for local maintenance. When eCONFIG is used for distributed maintenance, the

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IP address of the DECT Messenger system that runs eKERNEL must be specified.

- eKernel port: the default value 9000 is the port number that is typically used in eKERNEL_SITE table as the administration port, which is used in the sockets connection between eCONFIG and eKERNEL.

Note: The language keyword pictured in Figure 22 "Missing parameters prompt" (page 204) is no longer used, because the language of the user is retrieved from the configuration automatically.

When the eCONFIG is installed on a local PC (that is, the same system that runs the eKERNEL module of DECT Messenger), you can update the shortcut with the missing parameters. To do so, edit the **target** parameter of the shortcut to match the following.

```
C:\SOPHO Messenger@Net eCONFIG\Exe\eConfig.exe
/eKernel address:*LOCAL /eKernel port:9000
```

When you make this change, eCONFIG no longer prompts for the parameters at startup.

When the eCONFIG is installed on a distributed PC, Nortel strongly recommends updating the shortcut with the IP address of the eKERNEL. For example, if eKERNEL runs on a system with IP address 10.110.50.138, you must update the shortcut of all distributed PC systems as follows:

```
C:\SOPHO Messenger@Net eCONFIG\Exe\eConfig.exe
/eKernel address:10.110.50.138 /eKernel port:9000
```

Editing eCONFIG.ini

Another important configuration setting is defined in the eCONFIG.INI file, located in the path **`C:\SOPHO Messenger@Net eCONFIG\Exe`**, as shown in Figure 23 "Accessing the eCONFIG.ini" (page 206).

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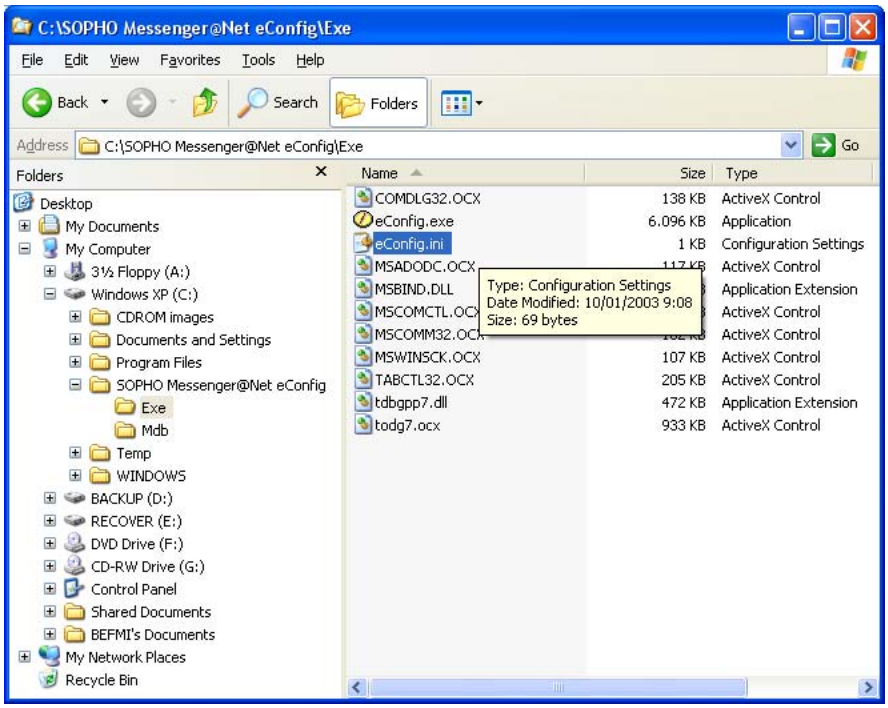
Figure 23
Accessing the eCONFIG.ini



To edit the eCONFIG.ini:

Procedure 45
Editing eCONFIG.ini

Step	Action
1	Open **Windows Explorer**.
2	Navigate to the file.
3	Double-click to open the file in your default text editor, usually Notepad.

--End--

During installation, eCONFIG uses the default eCONFIG.INI file, as shown in Figure 24 "eCONFIG.ini default" (page 207).

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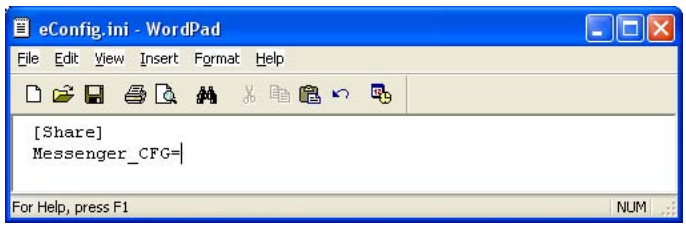
Figure 24
eCONFIG.ini default



In this case, the parameter Messenger_CFG is not defined, and the user is prompted to select the Messenger_CFG database on the PC that runs eKERNEL. This is usually found in the path **C:\SOPHO Messenger\Mdb**, on the system that runs eKERNEL. To prevent the software from prompting for a database file at startup, set the path and filename in the eCONFIG.INI file.

ATTENTION
Branding notice
To support both SOPHO and NORTEL environment, additional tags are available in the eCONFIG.INI file. These tags provide internal steering parameters for the user interface of the eCONFIG instance. Do not alter or remove these statements. Tampering with branding related information can violate copyright regulations.

- When your run eCONFIG on a local machine, your can enter the path C:\SOPHO Messenger@Net\Mdb\Messenger_CFG.MDB manually, as shown in Figure 25 "eCONFIG.ini for local machine" (page 207).

Figure 25
eCONFIG.ini for local machine

- When you run eCONFIG on a distributed machine, you can enter the path that refers to the location of the Messenger_CFG database file on the machine that runs eKERNEL. This means the directory where the file resides must be shared, so that remote machines can access the shared database. For example, if the drive is shared as MDB on eKERNEL system 10.110.50.138, you can specify the values as follows:

```
Messenger_CFG=\\10.110.50.138\MDB\Messenger_CFG.MDB
```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In this case, you can skip the process of manually editing the eCONFIG.INI file. Once the correct file is selected, you can use eCONFIG to navigate on the network.

- On a local machine, navigate to the local path C:\SOPHO Messenger@Net\Mdb\Messenger_CFG.MDB
- On a distributed machine, navigate to the appropriate machine, and select the Messenger_CFG.MDB file in the shared directory.

Start eKERNEL prior to launching the eCONFIG module:

- If you are setting up a new installation, you can start eKERNEL by clicking **Start** on the Windows task bar, and choosing **4.0 - SOPHO Messenger@Net > 09000 – eKERNEL**, as shown in Figure 26 "Starting eKERNEL" (page 208).
- If the system is already operational, the eKERNEL process is already running (either with or without control of eTM module).

Figure 26
Starting eKERNEL

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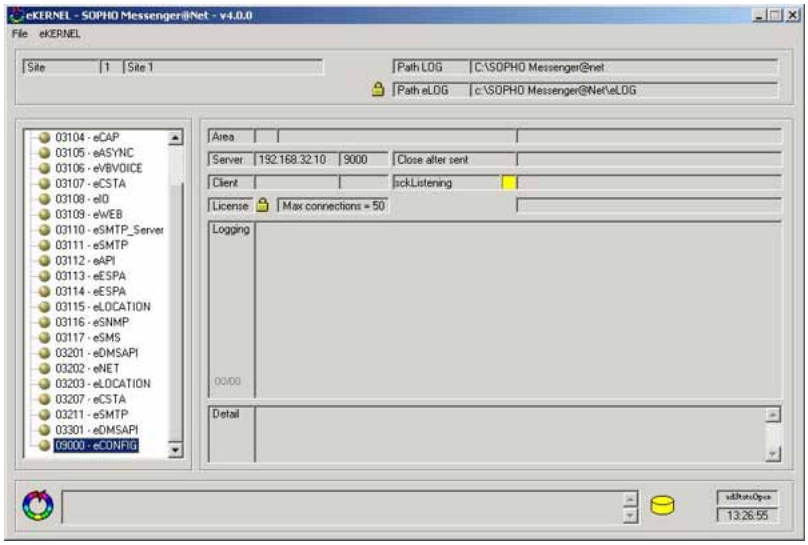
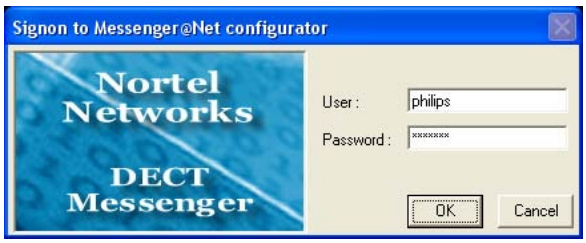
When eKERNEL is started, the first tab shows the eCONFIG module. In Figure 27 "eKERNEL interface" (page 209), eKERNEL is shown with IP address 10.110.49.170 port 9000.

Figure 27
eKERNEL interface



When the eCONFIG task is started, you must enter a valid user and password as shown in Figure 28 "eCONFIG Signon" (page 209). The information you enter is compared to the eCONFIG_USER table in Messenger_CFG.MDB.

Figure 28
eCONFIG Signon



The default installation provides two Users:

User = admin, Password = admin

User = sa, Password = BEFMI@A31

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An operational environment usually features other users as well, each of them with an associated password and security level.

Note 1: Nortel strongly recommends assigning a secret password to default users.

Note 2: It is possible to keep the changes of eCONFIG suspended, so that you can resume the configuration later. As a result, the changes are not applied immediately, and the work space of temporary changes is stored online. eCONFIG searches for a previous work space when it restarts.

If a work space is still available, the user is prompted whether to resume the previous session, or to ignore the changes made so far and start with a new copy, as shown in Figure 29 "eCONFIG database already exists" (page 210). If the last eCONFIG session has been applied (made into production), the user does not see this message.

Figure 29
eCONFIG database already exists

SOPHO Messenger@Net - eConfig
There is still a working database available!
By pressing the 'YES' button, you will continue working on this database.
By pressing the 'NO' button, a fresh copy of the SOPHO Messenger@Net configuration database will be taken, and all changes you made before will be lost!
Continue working on the work database?
Yes
No

When you start eCONFIG for the first time (both locally and distributed) the eCONFIG.INI has no path on which the MESSENGER_CFG database is stored. Once the CONFIG.INI file is updated manually to provide a valid path, the system no longer prompts for the location.

If eCONFIG.INI does not yet contain a path, the dialog box in Figure 30 "Select the correct path" (page 211) is shown.

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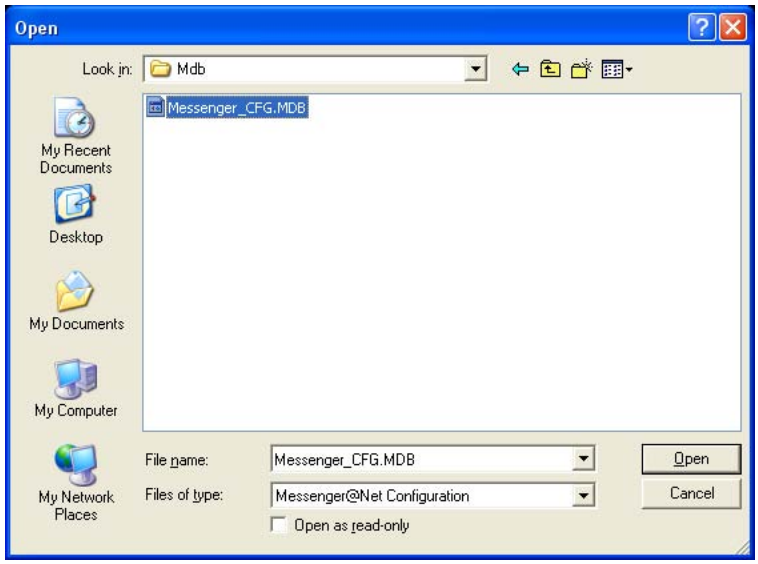
Figure 30
Select the correct path



In the dialog box shown in Figure 30 "Select the correct path" (page 211):

Procedure 46
Updating eCONFIG.INI

Step	Action
1	Navigate to the folder where MESSENGER_CFG resides.
2	Select the **MESSENGER_CFG** file.
3	Press **OK**. The eCONFIG.INI is updated automatically with the selected path.

--End--

The most common location for local users to find MESSENGER.CFG is as follows:

C:\SOPHO Messenger@Net\Mdb\Messenger_CFG_MDB

When distributed users are given access to eCONFIG, you must make the directory path of the MESSENGER.CFG available to the network, which is usually performed by sharing the path. The distributed users can then

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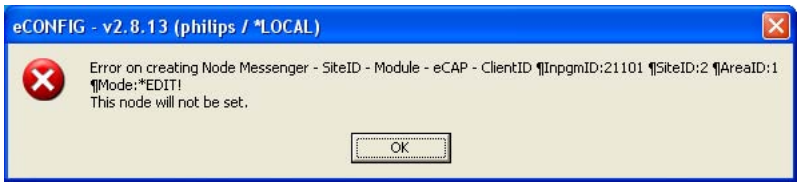
navigate through the Network Neighborhood to select the appropriate file. Contact the system administration regarding security, and network questions related to access privileges.

> ***Note:*** In some environments, distributed maintenance can lead to redesign of the network topology, especially in cases where DECT Messenger is initially installed in a separate network.

If a number of message windows open, such as in the example shown in Figure 31 "Startup error message" (page 212), there are inconsistencies in the original database. This is sometimes caused when the administrator creates a corrupt configuration using eGRID or MS Access. For example, a record is defined in eKERNEL_INPGM or eKERNEL_TCPCLIENT without an associated area, and so on.

Figure 31
Startup error message


eCONFIG - v2.8.13 (philips / *LOCAL)
Error on creating Node Messenger - SiteID - Module - eCAP - ClientID ¶InpgmID:21101 ¶SiteID:2 ¶AreaID:1 ¶Mode:*EDIT!
This node will not be set.
OK

eCONFIG is designed to preserve data integrity during data entry only, which means automatic cleanup does not take place. If messages such as the one in Figure 31 "Startup error message" (page 212) open, perform the following:

Procedure 47
Resolving a start-up error

Step	Action
1	Check data consistency using eGRID interface.
2	If possible, resolve any issues prior to using eCONFIG.

--End--

New configurations entered immediately through eCONFIG do not expose this phenomenon.

Figure 31 "Startup error message" (page 212) shows an example of such a warning, indicating a problem in site 2, area 1, input program 21101, type eCAP. This can be caused by a bad configuration in eKERNEL_TCPLCIENT or eKERNEL_INPGM or eKERNEL_SITE or eKERNEL_AREA.

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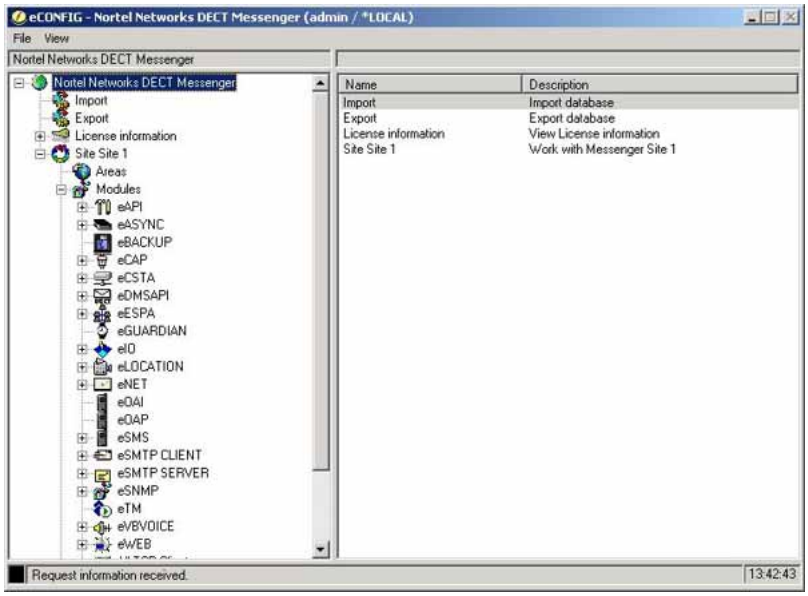
The eCONFIG features an interface as shown in Figure 32 "The eCONFIG interface" (page 213). Contact Nortel for more information on training sessions for the DECT Messenger.

Figure 32
The eCONFIG interface



To make any configuration change, left-click a node in the left panel of the window.

- Right-click the node to access a pop-up a menu, with menu options depending on the selected environment.
- Double-click the node to perform maintenance of the current selection, depending on the selected node.

Double-click Site1 to access the Site window as shown in Figure 33 "Site configuration window" (page 214).

- Click on any of the nodes to reveal more details in the right panel of the window. Depending on the selected item, this affects some or all of the following:
  - Label
  - Text box
  - Drop-down list
  - Grid
  - Label with Browse button

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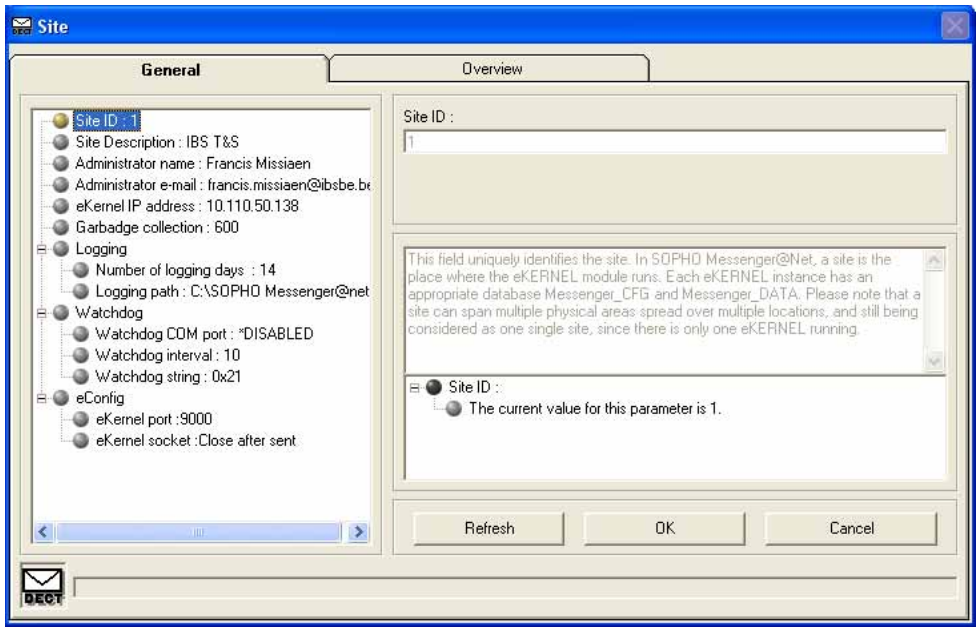
— Date picker

— Time picker

Figure 33
Site configuration window


Site
General
Overview
Site ID : 1
Site Description : IBS T&S
Administrator name : Francis Missiaen
Administrator e-mail : francis.missiaen@ibsbe.be
eKernel IP address : 10.110.50.138
Garbadge collection : 600
Logging
Number of logging days : 14
Logging path : C:\SOPHO Messenger@net
Watchdog
Watchdog COM port : *DISABLED
Watchdog interval : 10
Watchdog string : 0x21
eConfig
eKernel port :9000
eKernel socket :Close after sent
Site ID :
1
This field uniquely identifies the site. In SOPHO Messenger@Net, a site is the place where the eKERNEL module runs. Each eKERNEL instance has an appropriate database Messenger_CFG and Messenger_DATA. Please note that a site can span multiple physical areas spread over multiple locations, and still being considered as one single site, since there is only one eKERNEL running.
Site ID :
The current value for this parameter is 1.
Refresh
OK
Cancel
DECT

An example of a Grid view is shown in Figure 34 "GRID view" (page 215). In most cases, these nodes are indicated with >>> symbol, indicating the one-to-many relationship that is common with these nodes. For example, a single eASYNC instance (site 1 – area 1) can have definitions for multiple providers, each of them with a separate set of parameters.

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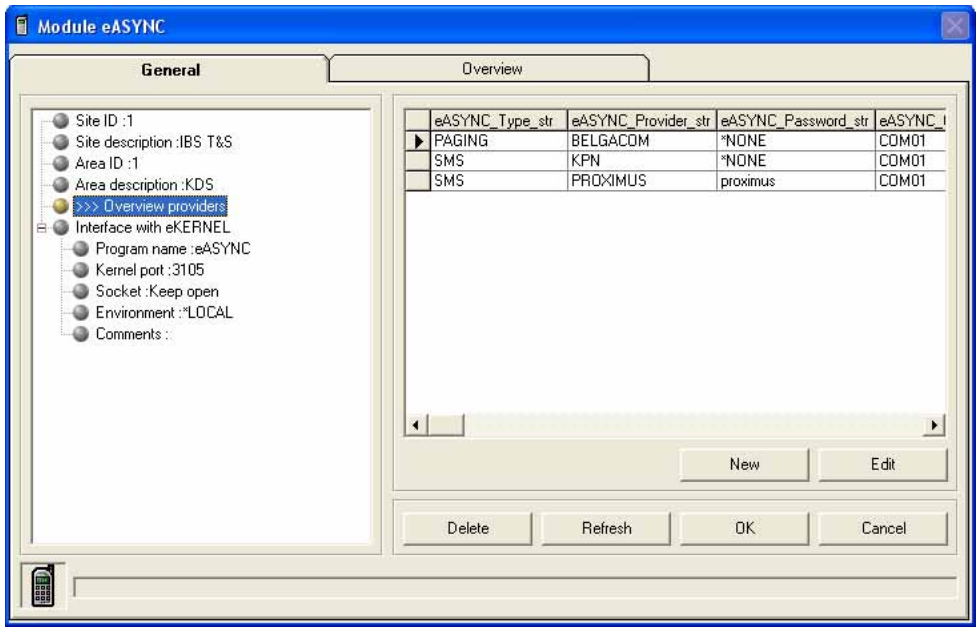
Figure 34
GRID view



You can edit detailed records on the Grid by selecting the record in the left-hand area of the grid (indicated with an arrow) and clicking **Edit**. You can add new records by clicking **New**.

You can delete records by first clicking **Edit**, and then clicking **Delete**.

Figure 35 "Browsing option" (page 216) illustrates the Browsing option. The current value is shown in a Label; click **Browse** to select a new value.

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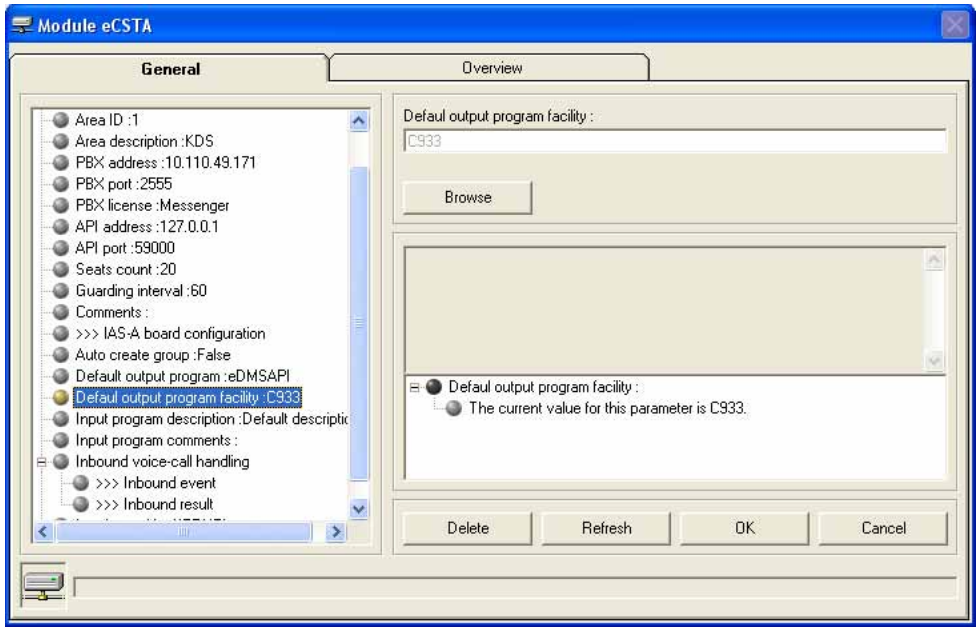
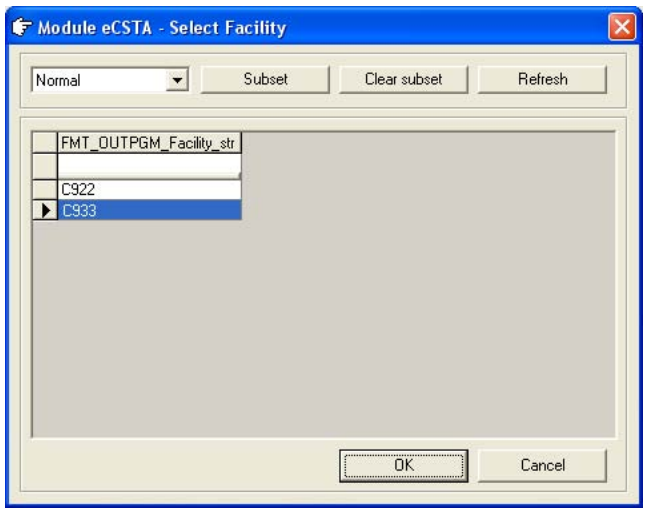
Figure 35
Browsing option



Click on **Default output program facility** to view information for it. Click **Browse** to open the Select Facility window as shown in Figure 36 "Browsing an output program" (page 216). In this interface, you can select a record in the left-hand pane of the Grid interface. When a record is selected, **OK** is enabled.

Figure 36
Browsing an output program



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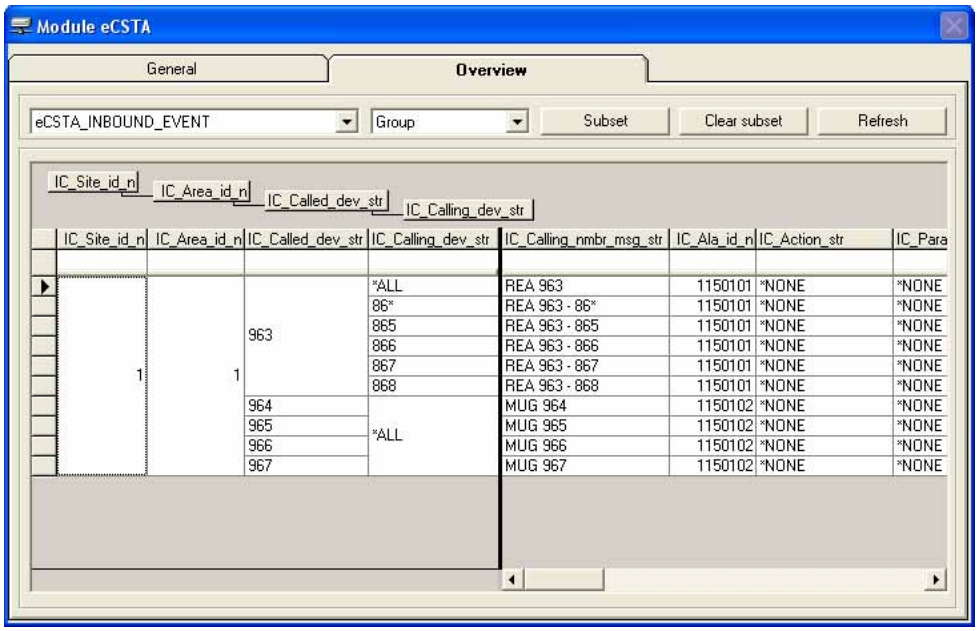
An advanced grid interface is available in many situations, as shown in Figure 37 "Advanced GRID interface" (page 217). As well, many module-related windows include an Overview tab, which provides access to only those tables that are relevant. A table selector is shown on the left. Use the drop-down list to choose the function from the following options: **Normal, Inverted**, or **Group**. The **Group** function provides access to a drag-and-drop interface, where you can arrange column headers to create groups of records in a hierarchical order, as shown Figure 37 "Advanced GRID interface" (page 217).

Figure 37
Advanced GRID interface


Module eCSTA
General
Overview
eCSTA_INBOUND_EVENT
Group
Subset
Clear subset
Refresh
IC_Site_id_n
IC_Area_id_n
IC_Called_dev_str
IC_Calling_dev_str
IC_Site_id_n | IC_Area_id_n | IC_Called_dev_str | IC_Calling_dev_str | IC_Calling_nmbr_msg_str | IC_Ala_id_n | IC_Action_str | IC_Para
1 | 1 | 963 | *ALL | REA 963 | 1150101 | *NONE | *NONE
1 | 1 | 963 | 86* | REA 963 - 86* | 1150101 | *NONE | *NONE
1 | 1 | 963 | 865 | REA 963 - 865 | 1150101 | *NONE | *NONE
1 | 1 | 963 | 866 | REA 963 - 866 | 1150101 | *NONE | *NONE
1 | 1 | 963 | 867 | REA 963 - 867 | 1150101 | *NONE | *NONE
1 | 1 | 963 | 868 | REA 963 - 868 | 1150101 | *NONE | *NONE
1 | 1 | 964 | *ALL | MUG 964 | 1150102 | *NONE | *NONE
1 | 1 | 965 | *ALL | MUG 965 | 1150102 | *NONE | *NONE
1 | 1 | 966 | *ALL | MUG 966 | 1150102 | *NONE | *NONE
1 | 1 | 967 | *ALL | MUG 967 | 1150102 | *NONE | *NONE

The message shown in Figure 38 "eKERNEL error: connection cannot be established" (page 218) appears when the link with eKERNEL cannot be established or is no longer available. During initial local configuration, this can indicate that the eKERNEL is not started. When you use eCONFIG on a remote PC, you cannot make system changes. However, any changes you make to groups, devices, and users are implemented immediately on the Messenger PC database.

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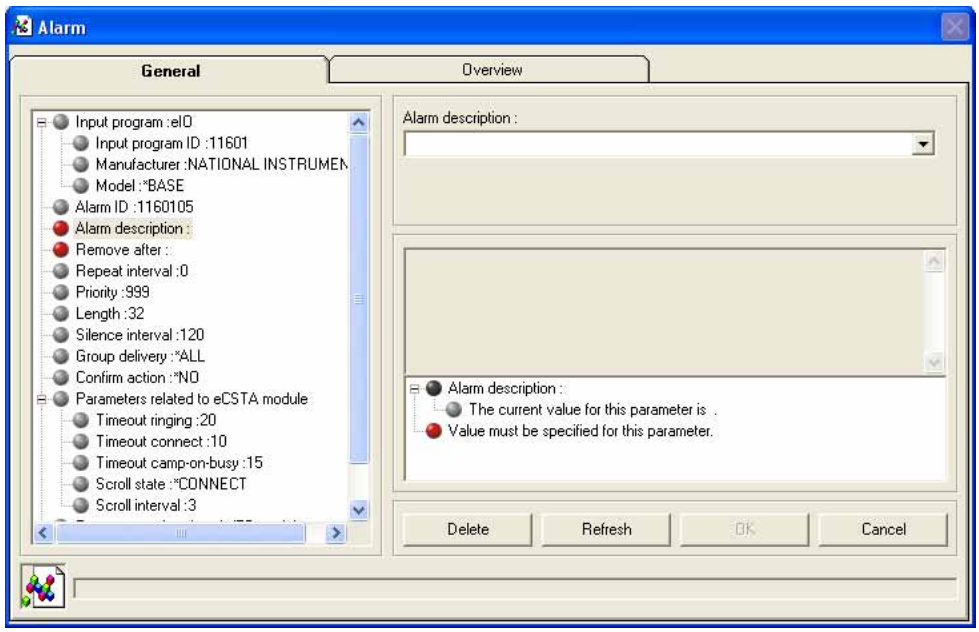
Figure 38
eKERNEL error: connection cannot be established

eCONFIG - v2.8.13 (philips / *LOCAL)
A connection with the eKernel can not be established!
The request can not be sent!
Please retry later.
OK

On the maintenance windows, there is extensive consistency testing on data validation of several parameters. These nodes are indicated in red. For example, on the Alarm window shown in Figure 39 "Alarms" (page 218), two parameters are in error. The selected error is explained on the right-hand panel of the window, in a statement such as Value must be specified for this parameter.

Figure 39
Alarms



The guarding maintenance window features a date selector, as shown in Figure 40 "Date selector" (page 219). Use this to select a date.

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Figure 40
Date selector

If you want to abort the configuration process, you can use the Exit menu. A confirmation requester appears, as shown in Figure 41 "Confirm Applying configuration" (page 219).

Figure 41
Confirm Applying configuration

Choose one of the following:

- If you answer **No**, the changes you made are stored online on the hard disk, and the can resume the configuration process later. Note that maintenance of groups, devices, and users are always applied immediately, and are not part of this resume procedure.
- If you answer **Yes**, the apply process is initiated. Follow the steps discussed in “Applying a new configuration” (page 219).

Applying a new configuration

Before you can apply the new configuration, you must free all locks to the current database. This means the DECT Messenger environment must be stopped, so eKERNEL and all associated modules must be stopped. Before stopping eKERNEL, take into consideration that all pending alarms are cleared at restart. Also, while eKERNEL and associated modules are down, no input and output is performed, and alarm input and distribution is suspended. Thus, an apply procedure requires careful planning.

- When eTM is not operational, you can close down every application manually. All modules, including eKERNEL, can usually be stopped by clicking the close control box in the right top of each window. Note that any program that has locks Messenger_CFG.MDB must be closed,

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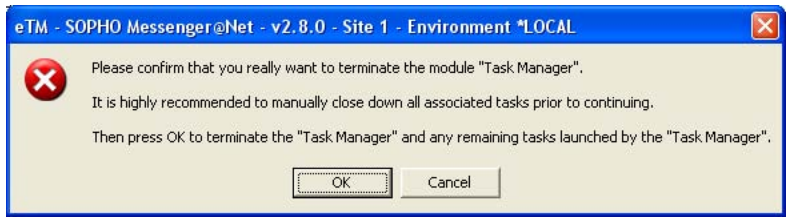
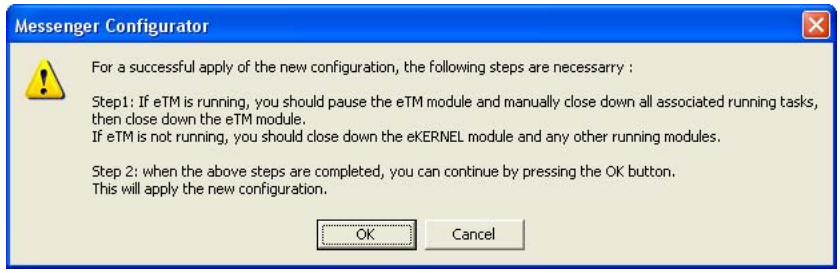
for example, eGRID, Microsoft Access, and so on. You can stop the Apache web server as well.

- When eTM is operational, refer to the special instructions. Because eTM is monitoring jobs, this includes the following steps:

Procedure 48
Apply a new configuration

Step	Action
1	Shut down eTM • Select the **Stop** menu option • Close all modules • Selecting the **Exit** menu option
2	Confirm your choice to shut down eTM Click **OK**. 
3	Apply the new configuration Click OK. 
4	Troubleshoot (if necessary). If the following dialog box appears, the apply process failed. This usually occurs when some modules remain active, for example, when eGRID or eKERNEL are still running. Identify the reason for the failure and retry, or postpone the apply to a later time.

eTM - SOPHO Messenger@Net - v2.8.0 - Site 1 - Environment *LOCAL
Please confirm that you really want to terminate the module "Task Manager".
It is highly recommended to manually close down all associated tasks prior to continuing.
Then press OK to terminate the "Task Manager" and any remaining tasks launched by the "Task Manager".
OK
Cancel

Messenger Configurator
For a successful apply of the new configuration, the following steps are necessarry :
Step1: If eTM is running, you should pause the eTM module and manually close down all associated running tasks, then close down the eTM module.
If eTM is not running, you should close down the eKERNEL module and any other running modules.
Step 2: when the above steps are completed, you can continue by pressing the OK button.
This will apply the new configuration.
OK
Cancel

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eCONFIG - v2.8.13 (philips / *LOCAL)
The apply of the new configuration was NOT SUCCESSFUL, because the Messenger_CFG.MDB database can not be copied.
Please first close all applications, and retry.
OK

Click **OK**.

5 Acknowledge successful application of the new configuration files.

If the apply process was successful, the following dialog box appears. Click **OK**.

eCONFIG - v2.8.13 (philips / *LOCAL)
The registry files are created in the directory 'C:\SOPHO Messenger@Net\exe'
Please distribute the files if necessarily to the appropriate machines.
Double click on the files to merge the configuration to the the registry.
Finally, start the 'Task Manager' module eTM.
OK

6 Remove old registry keys.

Nortel recommends using REGDIT to manually remove the old registry keys in the following section:

```
[HKEY_CURRENT_USER\Software\Philips\SOPHO
Messenger@Net]
```

7 Locate the new registry file.

As part of the registration process, one or more registry export files are created in the path **C:\SOPHO Messenger@Net\Exe**.

```
eTM - Site 1 - Environment LOCAL.reg
```

Note 1: When more than one registry file is available, view the contents and filename to identify the local file and remote files. Depending on the environment parameter of each module, one or more registry files are created.

Note 2: Registry files for distributed PC environments (for example, an instance of eIO resides on a remote networked PC) must be manually distributed to the target machine and applied there, after stopping eTM and associated processes.

8 Merge the registry file.

- Double-click the registry file to merge the contents into the registry repository.
- Click **OK**.

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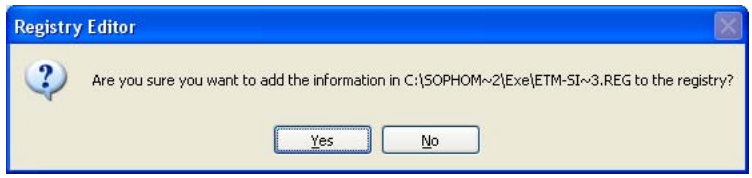

9 Acknowledge the completion of the merge operation.

After merging the data, the following message box appears

10 Restart the environment.

Choose either of the following:

- If you use eTM, the Task Manager retrieves the new configuration from the local registry repository, and activates the configured modules. This is shown in Figure 42 "eTM module interface" (page 223).
- If you prefer to work in the traditional way by means of shortcuts in the startup group, you must verify the configuration settings to determine the parameters needed for the appropriate shortcuts.

Nortel recommends using the eTM module in R2.8 and later.

--End--

The eTM module interface is shown in Figure 42 "eTM module interface" (page 223).

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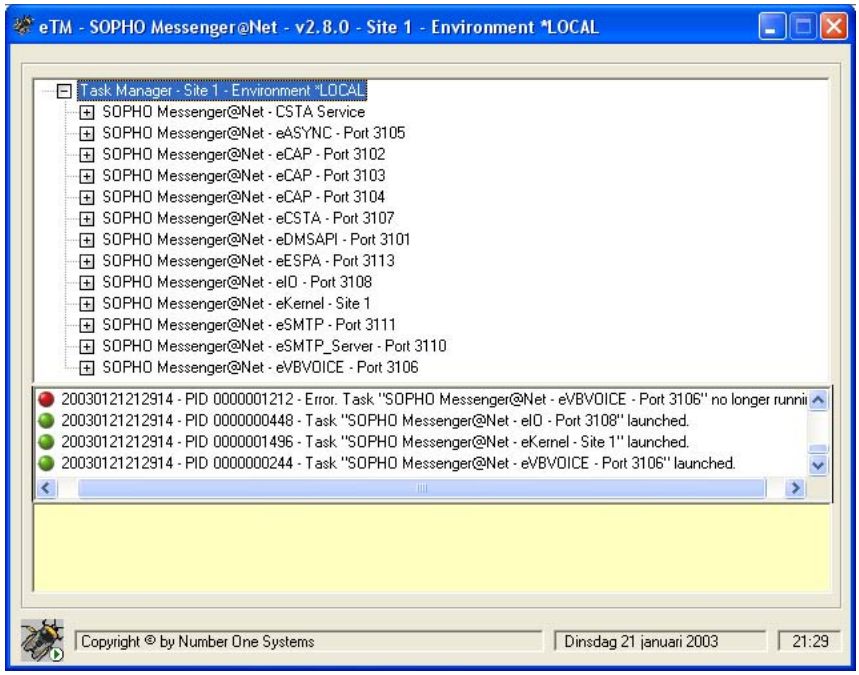
Figure 42
eTM module interface


eTM - SOPHO Messenger@Net - v2.8.0 - Site 1 - Environment *LOCAL
Task Manager - Site 1 - Environment *LOCAL
SOPHO Messenger@Net - CSTA Service
SOPHO Messenger@Net - eASYNC - Port 3105
SOPHO Messenger@Net - eCAP - Port 3102
SOPHO Messenger@Net - eCAP - Port 3103
SOPHO Messenger@Net - eCAP - Port 3104
SOPHO Messenger@Net - eCSTA - Port 3107
SOPHO Messenger@Net - eDMSAPI - Port 3101
SOPHO Messenger@Net - eESPA - Port 3113
SOPHO Messenger@Net - eIO - Port 3108
SOPHO Messenger@Net - eKernel - Site 1
SOPHO Messenger@Net - eSMTP - Port 3111
SOPHO Messenger@Net - eSMTP_Server - Port 3110
SOPHO Messenger@Net - eVBVOICE - Port 3106
20030121212914 - PID 0000001212 - Error. Task "SOPHO Messenger@Net - eVBVOICE - Port 3106" no longer runni
20030121212914 - PID 0000000448 - Task "SOPHO Messenger@Net - eIO - Port 3108" launched.
20030121212914 - PID 0000001496 - Task "SOPHO Messenger@Net - eKernel - Site 1" launched.
20030121212914 - PID 0000000244 - Task "SOPHO Messenger@Net - eVBVOICE - Port 3106" launched.
Copyright © by Number One Systems
Dinsdag 21 januari 2003
21:29

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Install PC - Step 7 - Dialogic

Overview

This chapter describes the following procedures to install the hardware and software required when you plan to use the eVBVOICE module of the DECT Messenger.

- Procedure 49 “Meeting installation requirements” (page 225)
- Procedure 50 “Installing the board” (page 227)
- Procedure 51 “Installing Dialogic SR6 for Windows” (page 228)
- Procedure 52 “Launching the Dialogic Configuration Manager” (page 235)
- Procedure 53 “Installing VBVOICE 4.4 runtime” (page 240)

You can skip this chapter if you do not plan to use the eVBVOICE module.

Note: This build of DECT Messenger also supports eVBVOICE module with Windows XP SP2 and Windows 2003 Server environment.

Meet installation requirements

Use the steps in the following procedure to ensure your system meeting the installation requirements for Dialogic.

Procedure 49
Meeting installation requirements

Step	Action
1	Ensure you have a supported Dialogic Board and the CD-ROM of DECT Messenger.

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ATTENTION
Supported means supported by both Dialogic SR6, Pronexus VBVoice 4.4 and IBS Technology, and Services eVBVOICE. In the current release of DECT Messenger only the following adapters are supported.

- 12-ports analogue Dialogic Board D/120JCT-LS
- 4-ports analogue Dialogic Board D/41JCT-LS EURO
- 4-port analogue Dialogic D4PCIUFWEU

Test other adapters that are supported by Dialogic SR6 and Pronexus VBVoice 4.4 for compatibility of eVBVOICE prior to using them in a DECT Messenger environment.

2 Ensure that your PC updated to the latest service pack and Windows updates.

3 Check that IRQ5 is free prior to continuing

By default, the Dialogic board (D/120JCT-LS) requires IRQ 5. Nortel recommends you ensure that IRQ5 is free prior to continuing. If IRQ 5 is in use, you can continue, as in many environments the system automatically handles this conflict.

4 Verify IRQ resources with: **Start > Control Panel > Administrative Tools > Computer Management**.

The following window appears.

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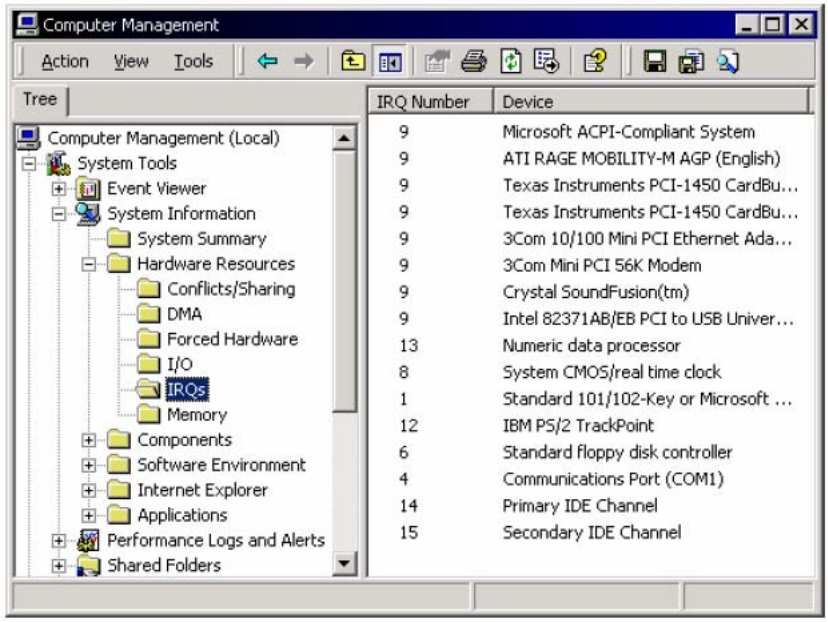

--End--

Install the board

Procedure 50
Installing the board

Step	Action
1	Power off the PC and disconnect all power cables.
2	Install the **Dialogic adapter** in a suitable PCI slot. See the manual Pronexus – Voice Card Setup that came with your board for mode information.

WARNING

Adjust the rotating address switch on the board to the address 0.

There is a small switch in the middle of the board that can adjust to cause all lines to start at boot time in onhook position. The factory default setting starts the board with all lines in off-hook position, which leads the lines to an Out of Service position and a failing startup environment for eVBVOICE. This can result in inability to handle the first or all calls within eVBVOICE.

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3 Restart your computer.

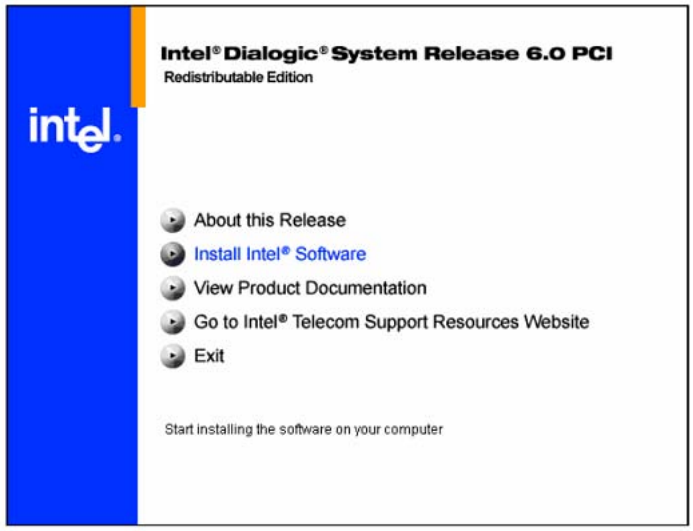
On some computers a **Found new hardware** message appears. Always click **Cancel** when this occurs. Do not attempt to install drivers at this stage. The required drivers are installed later.

--End--

Install Dialogic SR6 for Windows

Procedure 51
Installing Dialogic SR6 for Windows

Step	Action
1	Navigate to **Dialogic SR6** located on the CD-ROM in **04 - Dialogic SR6.1.63 and VBVoice 4.4 > 04.01 Dialogic SR6.1.63**.
2	Unzip **Dialogic.6.1.63.zip**.
3	Double-click **autorun.exe** to start installation.
4	Click **Install Intel Software**.



5 In the setup window that appears, click **Next**.

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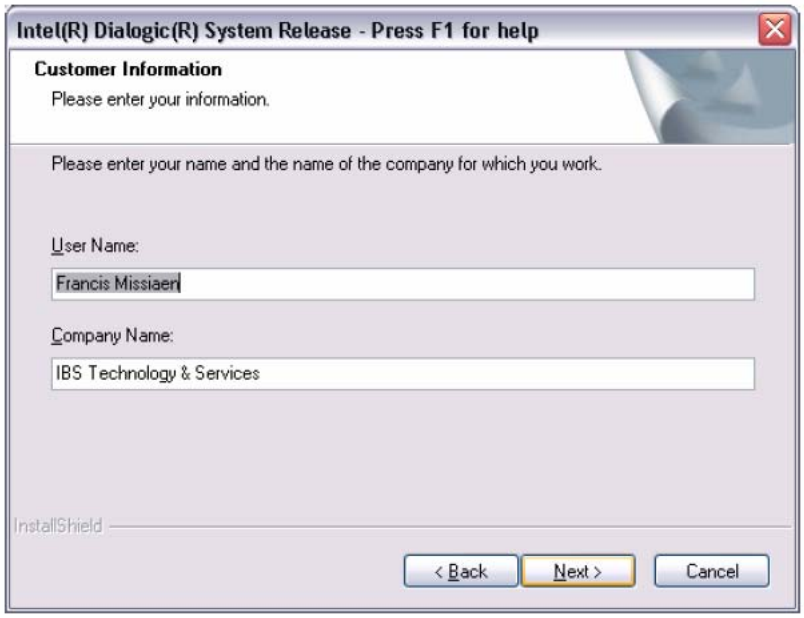
Intel(R) Dialogic(R) System Release - Press F1 for help
Welcome to the Intel(R) Dialogic(R) System Release 6.0 PCI Redistributable Edition setup
This program will install Intel(R) Dialogic(R) System Release 6.0 PCI Redistributable Edition version 6.1.63. Before proceeding, please exit all programs and ensure that TCP ports 12002, 12003, 12004, 20000, and 20001 are available. To continue, click Next.
< Back
Next >
Cancel

6 In the Customer Information window that appears, enter your **user name** and **company name**.


Intel(R) Dialogic(R) System Release - Press F1 for help
Customer Information
Please enter your information.
Please enter your name and the name of the company for which you work.
User Name:
Francis Missiaen
Company Name:
IBS Technology & Services
InstallShield
< Back
Next >
Cancel

7 Click **Next**.

The Choose Destination Location window appears.

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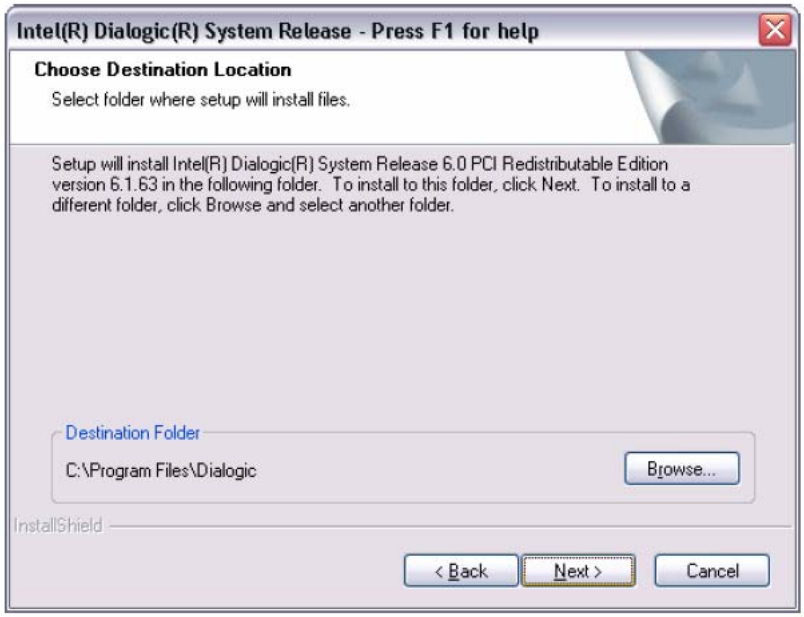
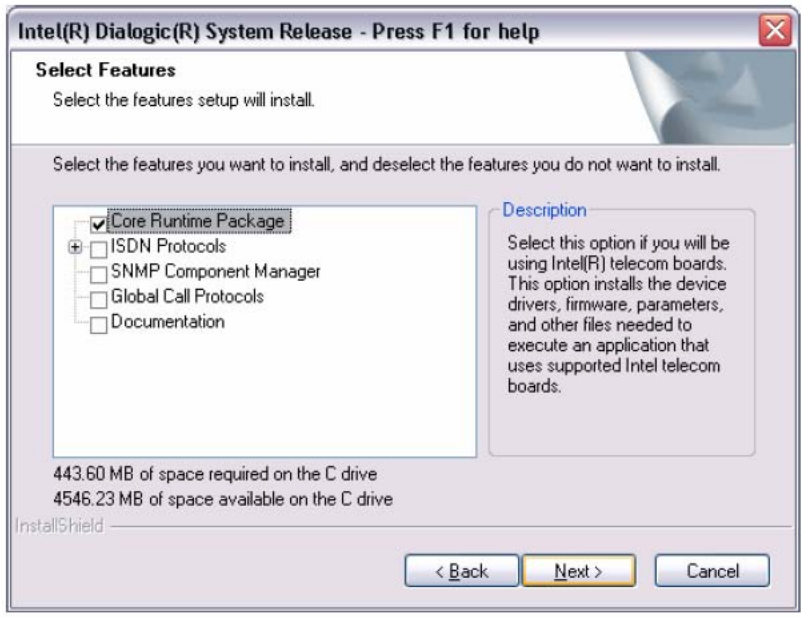

Intel(R) Dialogic(R) System Release - Press F1 for help
Choose Destination Location
Select folder where setup will install files.
Setup will install Intel(R) Dialogic(R) System Release 6.0 PCI Redistributable Edition version 6.1.63 in the following folder. To install to this folder, click Next. To install to a different folder, click Browse and select another folder.
Destination Folder
C:\Program Files\Dialogic
Browse...
InstallShield
< Back
Next >
Cancel

8 Accept the default Destination Folder.

9 Click **Next**.

The Select Features window figure appears, shown in the following figure.


Intel(R) Dialogic(R) System Release - Press F1 for help
Select Features
Select the features setup will install.
Select the features you want to install, and deselect the features you do not want to install.
Core Runtime Package
ISDN Protocols
SNMP Component Manager
Global Call Protocols
Documentation
Description
Select this option if you will be using Intel(R) telecom boards. This option installs the device drivers, firmware, parameters, and other files needed to execute an application that uses supported Intel telecom boards.
443.60 MB of space required on the C drive
4546.23 MB of space available on the C drive
InstallShield
< Back
Next >
Cancel

10 Check the box next to **Core Runtime Package**.

11 Click **Next**.

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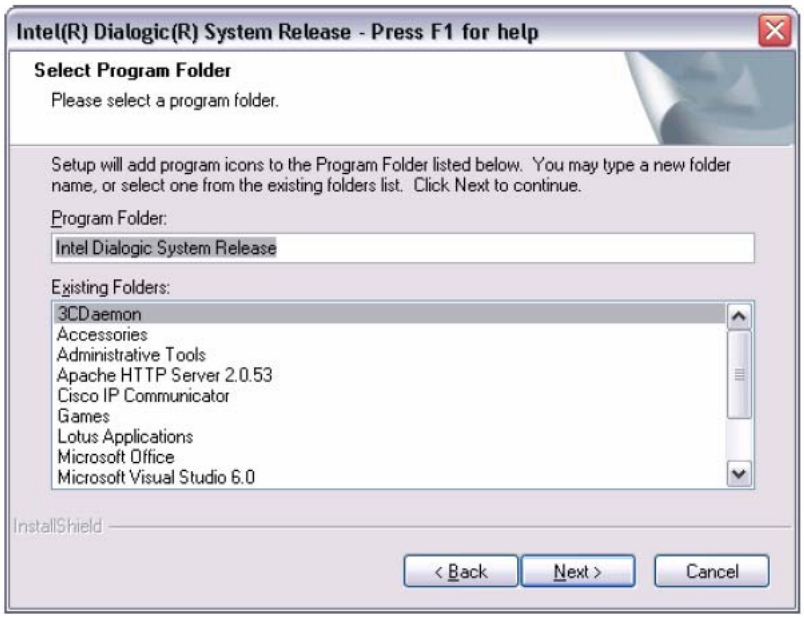
The following window appears.

Question
Specific third party software is required for the Intel(R) Dialogic(R) software to function properly.
The following software will be installed:
Iona Orbacus Version 4.0.5
Tcl/Tk Version 8.3.4
Xerces XML Version 1.1
ICU Support Libraries Version 1.4.0
Microsoft MFC/Other Redistributables Version 6.2
For more information about third party software, please refer to the Release Guide. To view the Release Guide, click "About this Release" on the system release navigation screen (which is started by autorun.exe).
Select "Yes" to proceed with the install. If you select "No" the installation will abort because the third party software is required by the Intel Dialogic Software.
Yes
No

12 Ignore the message shown and click **Yes** to continue.

The Select Program Folder window appears, shown in the following figure.


Intel(R) Dialogic(R) System Release - Press F1 for help
Select Program Folder
Please select a program folder.
Setup will add program icons to the Program Folder listed below. You may type a new folder name, or select one from the existing folders list. Click Next to continue.
Program Folder:
Intel Dialogic System Release
Existing Folders:
3CDaemon
Accessories
Administrative Tools
Apache HTTP Server 2.0.53
Cisco IP Communicator
Games
Lotus Applications
Microsoft Office
Microsoft Visual Studio 6.0
InstallShield
< Back
Next >
Cancel

13 Accept the default Program Folder.

14 Click **Next**.

The Start Copying Files window appears, shown in the following figure.

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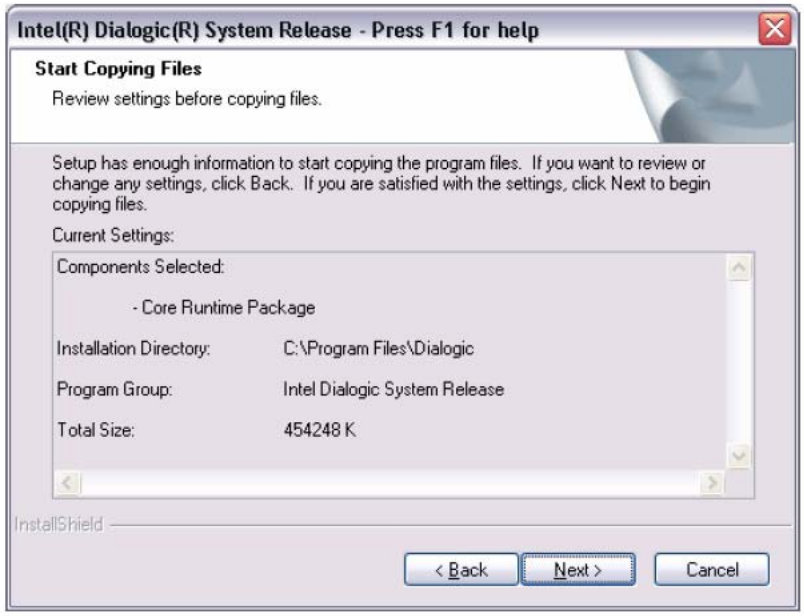
Intel(R) Dialogic(R) System Release - Press F1 for help
Start Copying Files
Review settings before copying files.
Setup has enough information to start copying the program files. If you want to review or change any settings, click Back. If you are satisfied with the settings, click Next to begin copying files.
Current Settings:
Components Selected:
- Core Runtime Package
Installation Directory: C:\Program Files\Dialogic
Program Group: Intel Dialogic System Release
Total Size: 454248 K
InstallShield
< Back
Next >
Cancel

15 Click **Next** to start the copying process.

The **Found New Hardware Wizard** appears, shown in the next figure.

16 When the Found New Hardware Wizard appears, shown in the next figure, perform the actions that follow.

Found New Hardware Wizard
Welcome to the Found New Hardware Wizard
Windows will search for current and updated software by looking on your computer, on the hardware installation CD, or on the Windows Update Web site (with your permission).
Read our privacy policy
Can Windows connect to Windows Update to search for software?
Yes, this time only
Yes, now and every time I connect a device
No, not this time
Click Next to continue.
< Back
Next >
Cancel

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- Select **No, not this time**.
- Click **Next**.
  A second Found New Hardware Wizard window appears, as shown in the following figure.

Found New Hardware Wizard
This wizard helps you install software for:
Intel Dialogic D120JCT-LS Card
If your hardware came with an installation CD or floppy disk, insert it now.
What do you want the wizard to do?
Install the software automatically (Recommended)
Install from a list or specific location (Advanced)
Click Next to continue.
< Back
Next >
Cancel

- Select **Install the software automatically**.
- Click **Next**.
  The **Completing the Found New Hardware Wizard** window appears, as shown in the following figure.

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Found New Hardware Wizard
Completing the Found New Hardware Wizard
The wizard has finished installing the software for:
Intel Dialogic D120JCT-LS Card
Click Finish to close the wizard.
< Back
Finish
Cancel

- Click **Finish** to close the wizard.
- If you are prompted to restart, click **Finish** in the window that appears.

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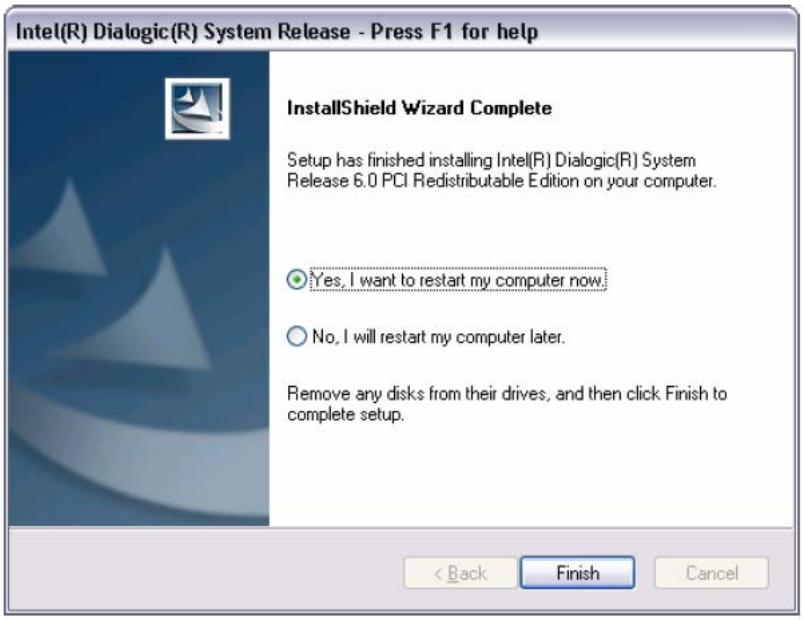
Intel(R) Dialogic(R) System Release - Press F1 for help
InstallShield Wizard Complete
Setup has finished installing Intel(R) Dialogic(R) System Release 6.0 PCI Redistributable Edition on your computer.
Yes, I want to restart my computer now.
No, I will restart my computer later.
Remove any disks from their drives, and then click Finish to complete setup.
< Back
Finish
Cancel

- Reboot your computer.

--End--

Launch the Dialogic Configuration Manager

Procedure 52
Launching the Dialogic Configuration Manager

Step	Action
1	Navigate to the **Dialogic Configuration Manager** located in **Start > Program Files > Intel Dialogic System Release > Configuration Manager – DCM**. The Dialogic Configuration Window appears with the appropriate installed board shown in the configuration panel.
2	If a **Windows Security Alert** window appears, click **Unblock**. In the current release of DECT Messenger only the following adapters are supported. • 12-ports analogue Dialogic Board D/120JCT-LS • 4-ports analogue Dialogic Board D/41JCT-LS EURO • 4-port analogue Dialogic D4PCIUFWEU Sample Dialogic Configuration windows follow. • A system equipped with a Dialogic D/120/JCT-LS

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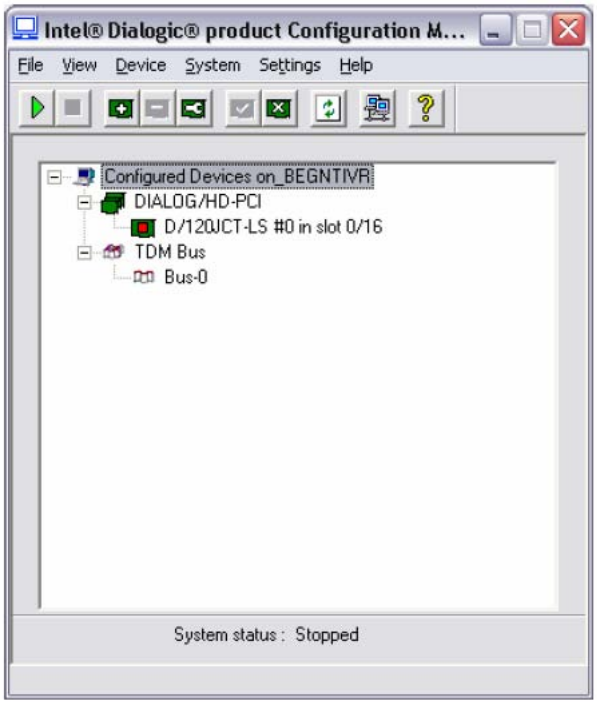

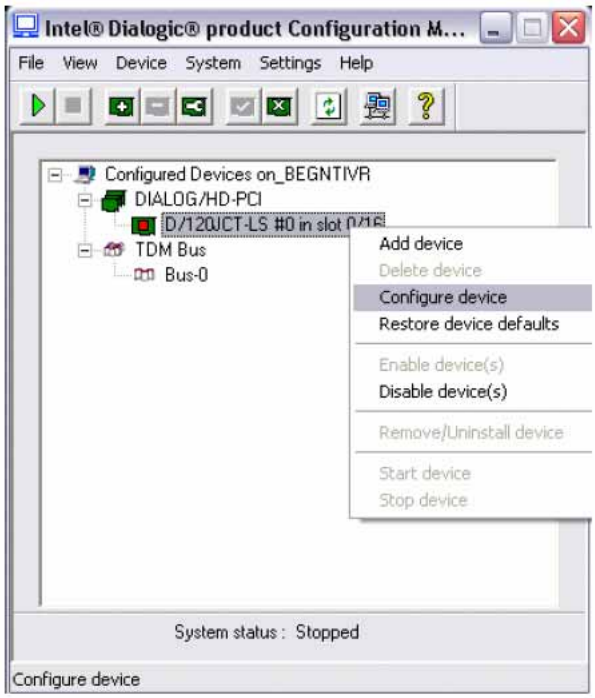

Right click on the configure device to adjust the settings according to your country. For example, as shown in the following figure, BE represents Belgium.

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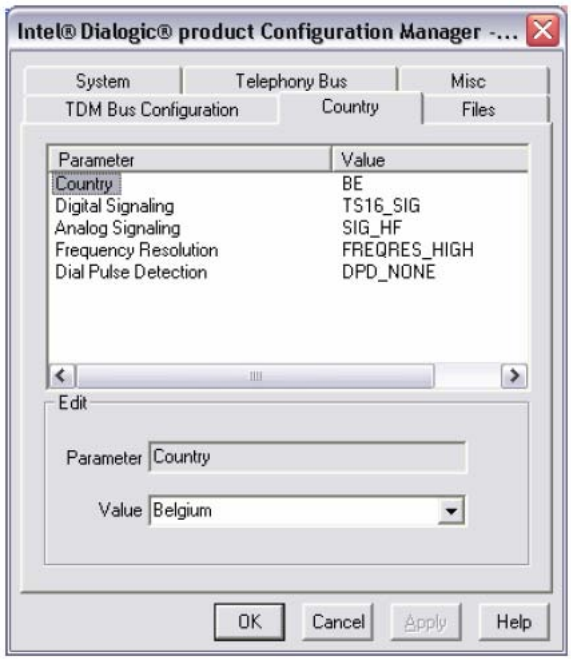
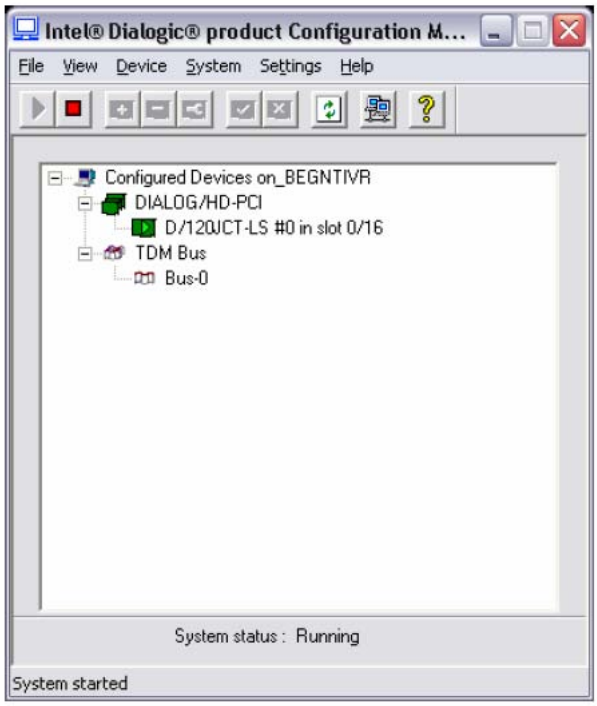


Click **OK** to continue.
Click on the green arrow to attempt to start the Dialogic drivers.
If the drivers can start, the following windows open.



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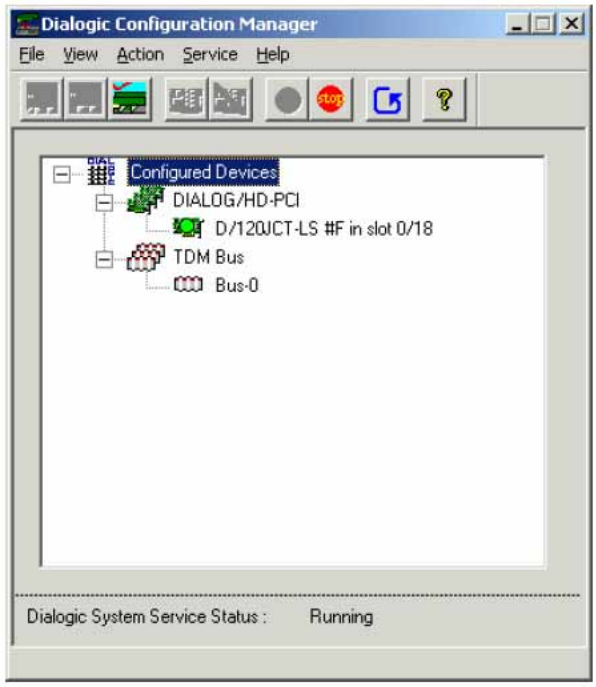
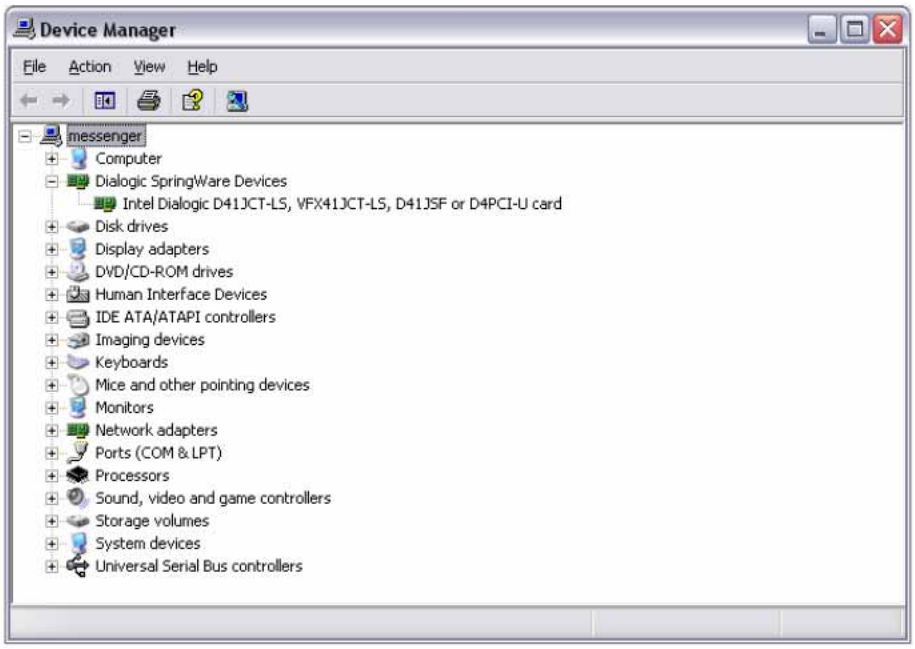


- A system equipped with Dialogic D4PCIUFWEU
  The following windows show similar screens for a system equipped with a Dialogic D4PCIUFWEU board.



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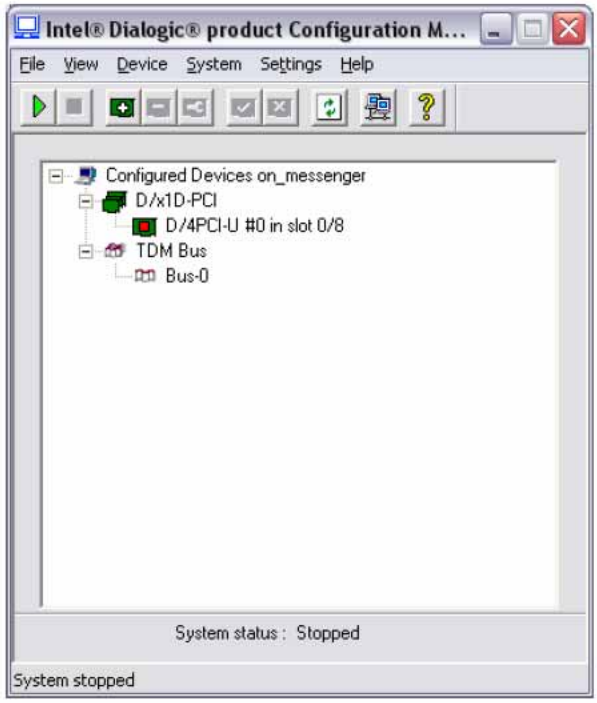

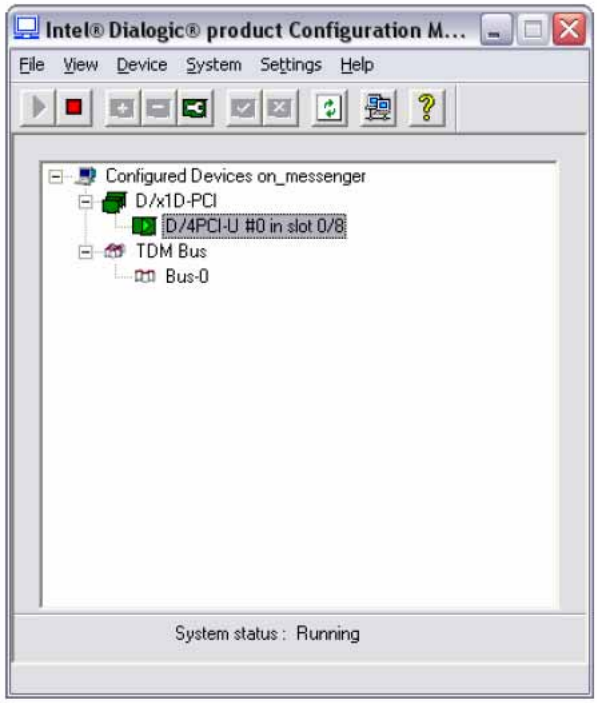

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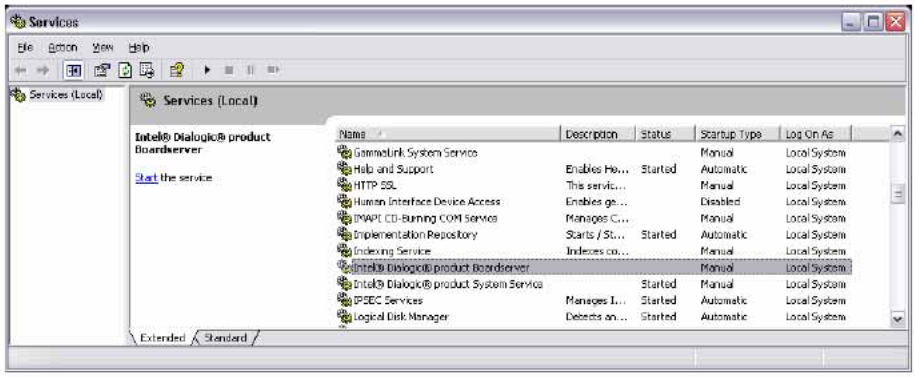
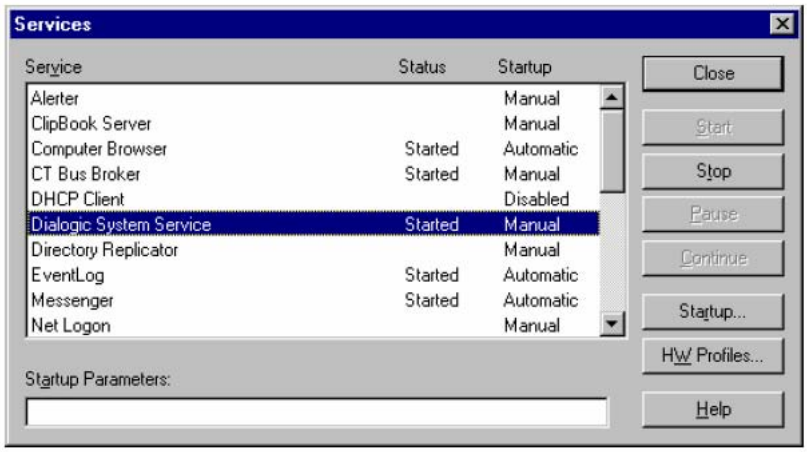
3 Check that **Dialogic System Service** is listed in the **Service** section in the **Control Panel**.

4 Check that **Dialogic System Service** is defined with startup type **Manual**.

eVBVOICE starts the service as required automatically.
This means you do not need to change the startup mode to Automatic.



You can stop the service back to restore the initial startup state. You can changes the properties of the card after you stop the service.



--End--

Install VBVOICE 4.4 runtime

Procedure 53
Installing VBVOICE 4.4 runtime

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Step	Action
1	Navigate to **VBVOICE 4.4 runtime** located on the CD-ROM in 0**4 - Dialogic SR6.1.63 and VBVoice 4.4 -> 04.02 - VBVoice 4.4 Runtime**.
2	Double-click **vbv44_44039.exe**. The following window appears as shown in the following figure.

When the Installation Wizard starts up, the license agreement appears.

3	Click **Yes** to accept.
4	Click **Next** to continue. The following Welcome window appears.

VBVoice 4.4 Redistributable Installation
Welcome!
This installation program will install
VBVoice 4.4 Redistributable.
Press the Next button to start the installation. You can press the Exit Setup button now if you do not want to install the VBVoice 4.4 Redistributable at this time.
< Back
Next >
Exit Setup

5	Click **Next** to continue. The Select Destination Directory window appears, as shown in the following figure.

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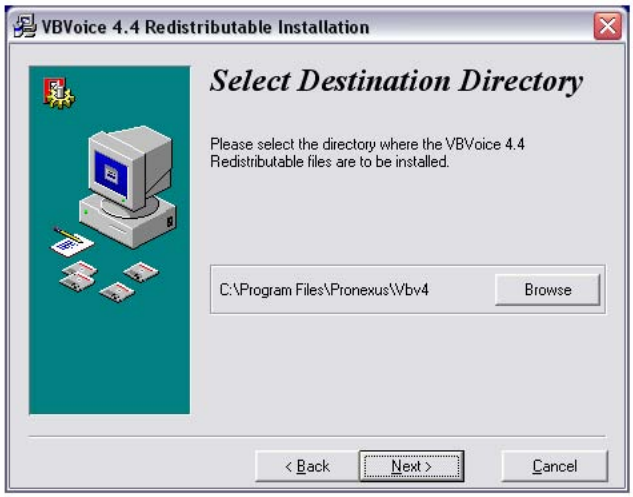
VBVoice 4.4 Redistributable Installation
Select Destination Directory
Please select the directory where the VBVoice 4.4 Redistributable files are to be installed.
C:\Program Files\Pronexus\Vbv4
Browse
< Back
Next >
Cancel

6 Click **Next** to continue.

The **Backup Replaced Files?** window appears. See following figure.

VBVoice 4.4 Redistributable Installation
Backup Replaced Files?
This installation program can create backup copies of all files replaced during the installation. Do you want to create backups of the replaced files?
Yes
No
< Back
Next >
Cancel

7 Click **Next** to continue.

The **Ready to Install** window appears.

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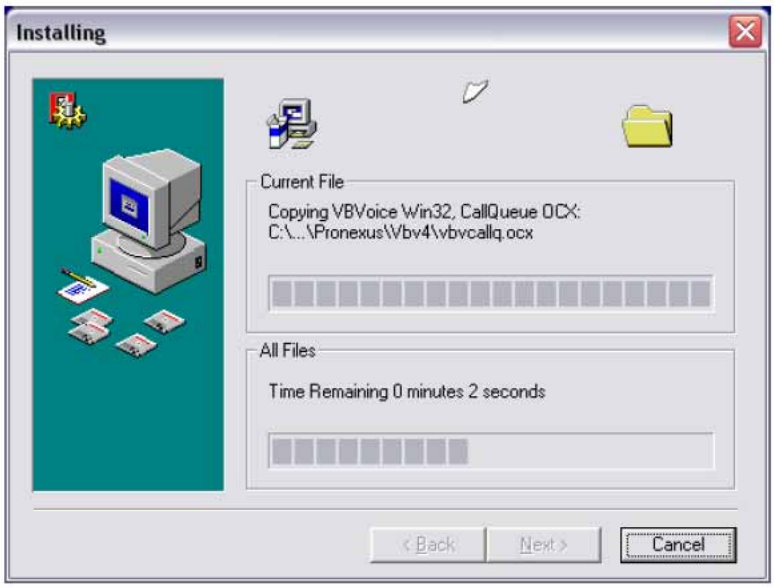
VBVoice 4.4 Redistributable Installation
Ready to Install!
You are now ready to install the
VBVoice 4.4 Redistributable.
Press the Next button to begin the installation or the Back button to reenter the installation information.
< Back
Next >
Cancel

8 Click **Next** to continue.

The Installing progress window appears.



9 When the installation is complete, click **Next** to continue.

The **Install VBWap?** window appears.

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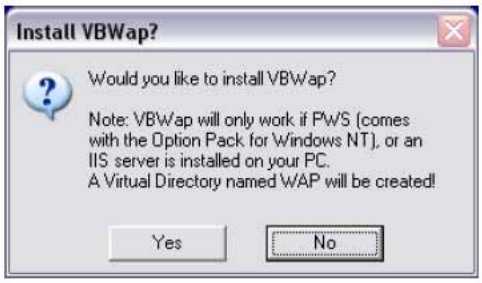

Install VBWap?
Would you like to install VBWap?
Note: VBWap will only work if PWS (comes with the Option Pack for Windows NT), or an IIS server is installed on your PC.
A Virtual Directory named WAP will be created!
Yes
No

10 Click No.

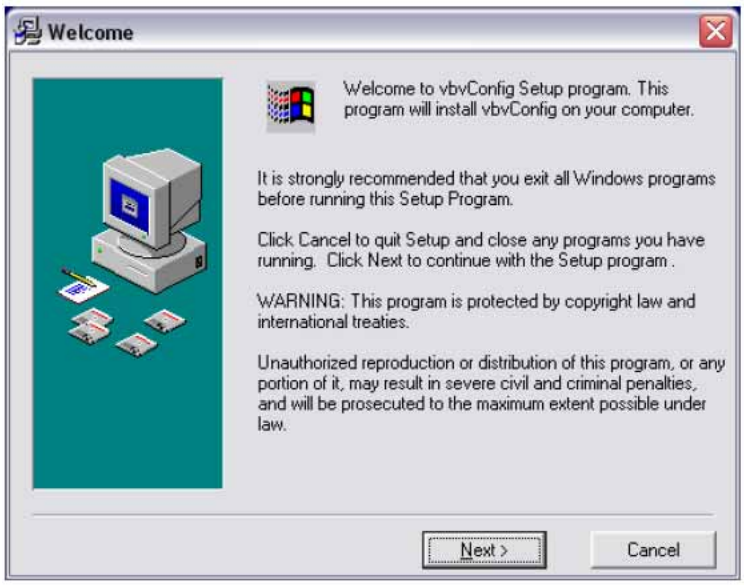
Do not install VBWap.

The Install **VBVoice VBVConfig?** window appears.

Install VBVoice VBVConfig?
Would you like to install the VBVoice VBVConfig ?
VBVConfig is a specialized VBVoice tool which will help you edit your vbv4.ini file.
RECOMMENDED!
Yes
No

11 Click **Yes** to install VBVConfig.

The Initializing Wise Installation Wizard appears, followed by the Welcome to vbvConfig Setup program window, shown in the following figure.


Welcome
Welcome to vbvConfig Setup program. This program will install vbvConfig on your computer.
It is strongly recommended that you exit all Windows programs before running this Setup Program.
Click Cancel to quit Setup and close any programs you have running. Click Next to continue with the Setup program .
WARNING: This program is protected by copyright law and international treaties.
Unauthorized reproduction or distribution of this program, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under law.
Next >
Cancel

12 Click **Next** to continue.

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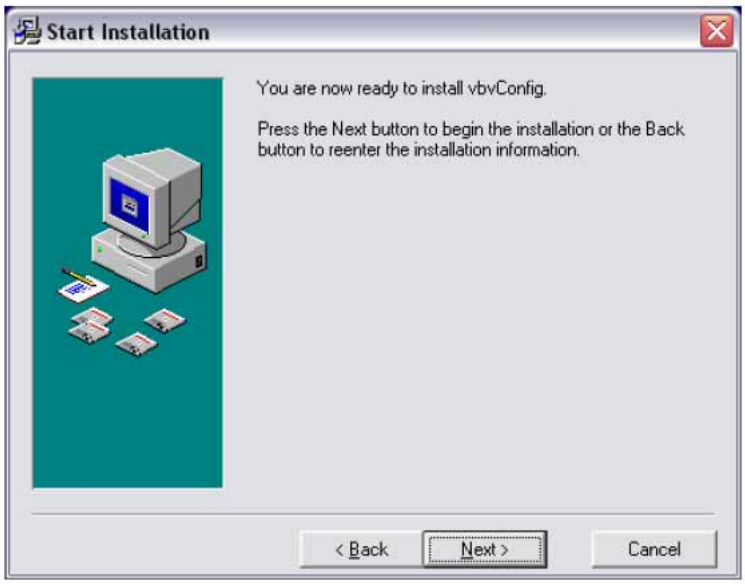
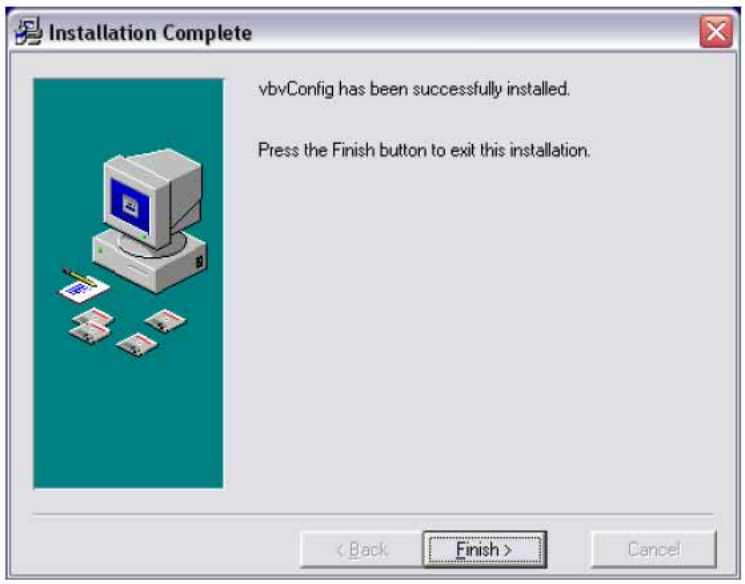
The Start Installation window appears, shown in the following figure.


Start Installation
You are now ready to install vbvConfig.
Press the Next button to begin the installation or the Back button to reenter the installation information.
< Back
Next >
Cancel

13 Click **Next** to continue.

The Updating System Configuration window appears. Wait for the Installation Complete window to appear, shown in the following figure.


Installation Complete
vbvConfig has been successfully installed.
Press the Finish button to exit this installation.
< Back
Finish >
Cancel

14 Click **Finish**.

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The **Install VBVoice VoiceInterfaceInstaller?** window appears.

Install VBVoice VoiceInterfaceInstaller?
Would you like to install the VBVoice VoiceInterfaceInstaller ?
VoiceInterfaceInstaller will setup your system ready to support your voice card or sound card.
Yes
No

15 Click **Yes** to install the VoiceInterfaceInstaller.

The Initializing Wise Installation Wizard appears, followed by the Welcome to the Voice Interface Installer window, shown in the following figure.

Voice Interface Installer Installation
Welcome to
Voice Interface Installer
Press the Next button to start or Cancel to exit.
< Back
Next >
Cancel

16 Click **Next** to continue.

The Select the type of Voice Card window appears, shown in the following figure.

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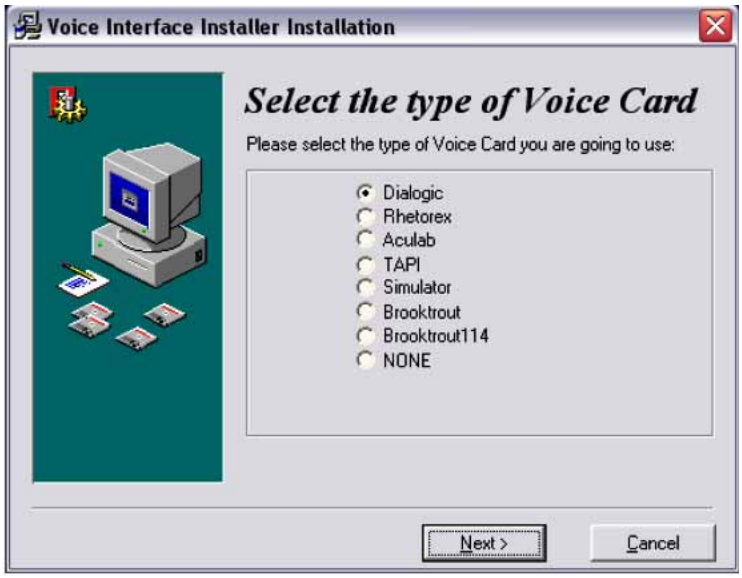

17 Choose **Dialogic**.

18 Click **Next** to continue.

The Ready to Install window appears, as shown in the following figure.

19 Click **Next** to continue.

The VoiceCard Type window appears, as shown in the following figure.

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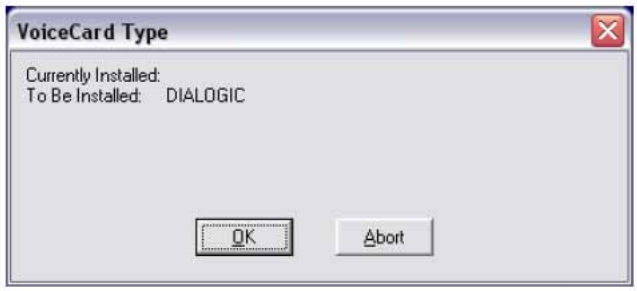

20 Click **OK**.

A registering runtime components window appears. When the registration to complete, a warning window appears.

Ignore the warning message shown in following figure stating that Dialogic SR5.1 drivers are not found. The VBVoice runtime distribution was developed by Pronexus before the Intel Dialogic System Release 6.0 existed, so the verification signals the non existence of the Service Release.

Dialogic SR5.1 Drivers not Installed!
The Dialogic SR5.1 Drivers were not found on your system. The Pronexus Dialogic Interface DLL (Vbvdlg32.dl)l will be installed but not registered.
Please remember install the Dialogic SR5.1 Drivers and then re-run Voice Interface Installer to register Vbvdlg32.dl.
Voice Interface Installer can be run from your Start Menu\Programs\Pronexus\Voice Interface Installer at any time after this install.
OK

21 Click **OK**.

22 If the message shown in the following window appears, click **OK**.

The Installation Completed window appears.

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Voice Interface Installer
Installation Completed!
In the future, if you decide to change the voice card type, simply run this program again.
Finish
Cancel

23 Read the message and click **Finish**.

Another Installation Completed window appears, as shown in the following figure.

VBVoice 4.4 Redistributable
Installation Completed!
Thank you for choosing our products for your computer telephony solution.
NOTE: This installation only installs VBVoice 4.4 Redistributable re-distributable components. Voice card drivers, custom made applications and their runtime files have to be included separately.
Exit!
Cancel

24 Click EXIT.

The following window appears.

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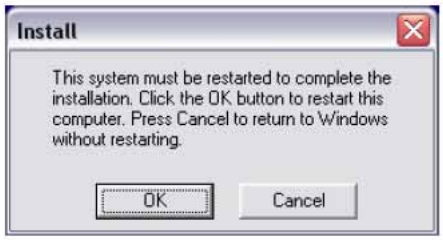

Install
This system must be restarted to complete the installation. Click the OK button to restart this computer. Press Cancel to return to Windows without restarting.
OK
Cancel

25 Read the message and click **OK** to restart the computer, or click **Cancel** to return to Windows.

--End--

Start eVBVOICE

Note: If eVBVOICE and eKERNEL are not configured, skip the remainder of this chapter.

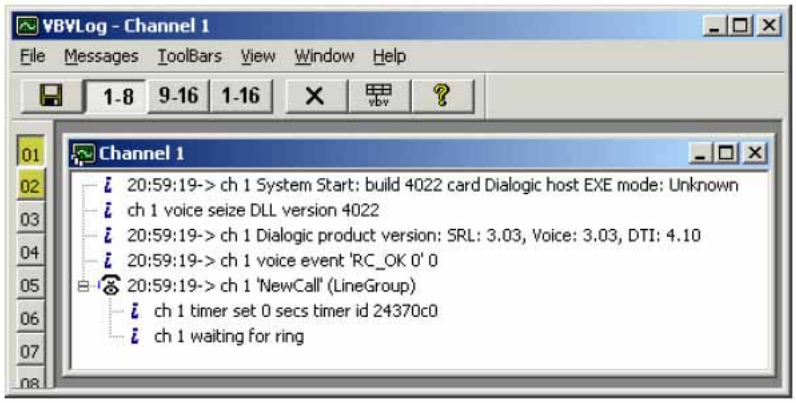
If eVBVOICE and eKERNEL are already configured, continue with the remainder of this chapter.

The required drivers and runtime distribution objects are now installed.

If eVBVOICE is configured and started, the top left site of the window temporarily displays the message: Dialogic Drivers are being started. Please wait.

When the Dialogic Drivers start, the following window appears.

Figure 43
VBVLog


VBVLog - Channel 1
File Messages ToolBars View Window Help
1-8 9-16 1-16
Channel 1
20:59:19-> ch 1 System Start: build 4022 card Dialogic host EXE mode: Unknown
ch 1 voice seize DLL version 4022
20:59:19-> ch 1 Dialogic product version: SRL: 3.03, Voice: 3.03, DTI: 4.10
20:59:19-> ch 1 voice event 'RC_OK 0' 0
20:59:19-> ch 1 'NewCall' (LineGroup)
ch 1 timer set 0 secs timer id 24370c0
ch 1 waiting for ring

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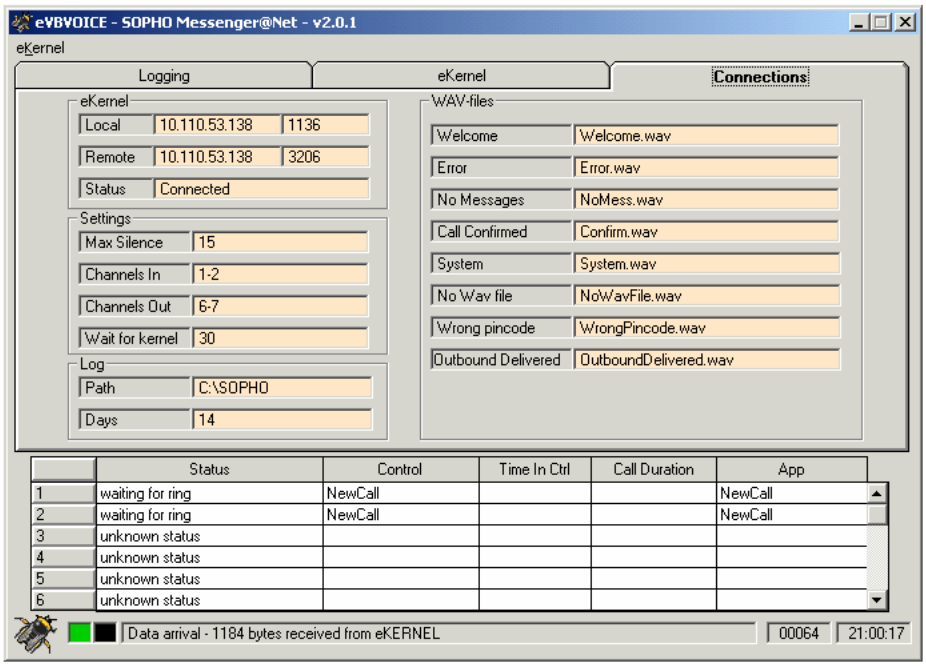
The eVBVOICE application shows a window similar to the following window.

Figure 44
eVBVOICE - DECT Messenger



This completes the installation procedure for the Dialogic adapter.

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Install PC - Upgrade DECT Messenger

Introduction

Since the introduction of DECT Messenger, several commercial versions have been released: 1.0, 2.0, 2.8, 2.9, 2.9.10, 3.0, and now 4.0.

There are two major items involved in upgrading to a new release.

- updated database design
- prerequisites

Generally speaking, new releases typically introduce new functionality and handle known maintenance issues of previous releases.

Configuration database

DECT Messenger stores its configuration in a centralized configuration database called Messenger_CFG.MDB residing in C:\SOPHO Messenger@Net\Mdb.

It is important to not lose the DECT Messenger configuration database during the upgrade process. If the configuration database is lost, your configuration is replaced by a default configuration of 4.0 and results in a loss of configuration.

Instructions are given on how to preserve other settings and resources, for example the logging file, National-Instruments configuration files, and so on.

When eKERNEL starts, eKERNEL analyzes Messenger_CFG.Mdb and, if necessary, applies changes to the layout of the database. This can include adding tables, adding fields, and altering attributes.

Recommended approach

The recommended approach to upgrade to a new release of DECT Messenger is to consider the upgrade as installing a new system, but taking a backup first of the items needed in order not to lose configuration data.

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This involves making a backup of data you do not want to lose, uninstalling the components you installed previously as part of your current version of DECT Messenger, and installing the new components from the CD-ROM of release 4.0. Finally you must restore the data you saved in the beginning.

Note: If you can afford the down time, consider a "scratch" install. For example, if you want to take the opportunity to change from an old operating system, such as Windows 2000 Professional or Windows 2000 Server, to a more recent system, such as Windows XP or Windows 2003 Server, a scratch install is your best option. A scratch install is also your best option if you are replacing the physical hardware, for example, if you think the expected life time of the hardware is reached or if future maintenance of the hardware is an issue.

Upgrading to release 4.0

To determine your current release, verify the level of the eKERNEL module, where major/minor/medication level is shown.

This chapter summarizes the procedure to upgrade DECT Messenger from:

- “Upgrade DECT Messenger from 2.8 to 4.0” (page 254)
- “Upgrade DECT Messenger from 2.9 to 4.0” (page 259)
- “Upgrade DECT Messenger from 3.0 to 4.0” (page 263)

This chapter also summarizes the procedure for upgrading within release 4.0. See “Upgrade DECT Messenger within release 4.0” (page 267)

Upgrade DECT Messenger from 2.8 to 4.0

Follow the steps in the next procedure when you want to upgrade DECT Messenger from release 2.8 to release 4.0.

Procedure 54
Upgrading DECT Messenger from 2.8 to 4.0

Step	Action
1	End all activity of DECT Messenger including the following activities. • end all running modules • end Task Manager or Task Manager High Availability, if available. • end the activities in the remote PCs if your modules are distributed among multiple PCs.

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2 Make a backup of your current environment.

Create a ZIP-file containing the following directories (if available) C:\SOPHO Messenger C:\SOPHO Messenger@Net eCONFIG

> ***Note:*** Store the ZIP-files in a safe location, especially if you plan to format the PC to scratch install a new operating system.

3 Make a copy of any important items you do not want to lose.

4 Copy the file "Messenger_CFG.MDB" residing in "C:\SOPHO Messenger@Net\Mdb".

This file is very important and is needed later on as it contains your entire configuration.

5 Preserve logging data, if desired.

Store the contents of the following directories (if available).

- C:\SOPHO Messenger@Net\Log
- C:\SOPHO Messenger@Net\eLOG

6 If you are using National Instruments infrastructure, make sure you have a copy of the configuration file.

This is a file that usually has the extension IAK. You can produce the file using the Fieldpoint Explorer tool.

7 If you launch eKERNEL and other processes through shortcuts, make sure you have a copy of these shortcuts.

The shortcuts probably reside in the Startup group of the Administrator and launch automatically with automated windows logon.

8 If you use the Task Manager or Task Manager High Availability, export the registry HKEY_CURRENT_USER\Software\Philips\SOPHO Messenger@Net.

Make sure you have a copy of this REG-file to be applied again later. You probably have a shortcut to eTM or TM_HA residing in the Startup group of the Administrator and launched automatically with automated windows logon.

9 To continue with the upgrade of DECT Messenger 2.8 to 4.0, choose one of the following two procedures.

- Procedure 55 “Uninstalling previously installed items (recommended)” (page 256)
- Procedure 56 “Installing from scratch (not recommended)” (page 257)

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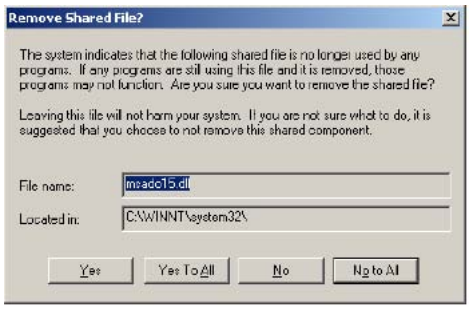
Only perform a scratch install if you have good reasons to do so, as it increases downtime and involves additional risks, as more steps are involved.

--End--

Procedure 55
Uninstalling previously installed items (recommended)

Step	Action
1	Due to the number of changed items, for example in Prerequisites, Nortel recommends that you uninstall or delete all software related to DECT Messenger. If the message shown in the following figure appears, click **No to All**. 
2	Uninstall C:\SOPHO Messenger@Net.
3	Uninstall C:\SOPHO Messenger@Net eCONFIG.
4	Uninstall the other items related to previous Messenger installation, for example: • Prerequisites • Philips License Manager • Philips DMS-API Service • Apache HTTP Server • Adobe Acrobat Reader • NI DataSocket • NI FieldPoint Explorer • PHP 4.x.x • Dialogic System Release • VbVoice 4.x ***Note:*** Some items may not be present in you system.

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To continue the upgrade of DECT Messenger, follow the steps in the procedure “Upgrade DECT Messenger from 2.8 to 4.0” (page 254).

--End--

Follow the steps in the next procedure to install DECT Messenger release 4.0 from scratch. Installing from scratch formats the system and erases all the data. Again, only perform a scratch install if you have good reasons to do so, as it increases downtime and involves additional risks, as more steps are involved.

An install from scratch is a recommended option if you want to replace hardware, replace operating system, or you suspect your system is malfunctioning.

Procedure 56
Installing from scratch (not recommended)

Step	Action
1	Verify the following. • Record the Computer Name and presence in workgroup of domain. • Record the Network Setting, such as IP address, subnet mask, and default gateway. • Record if ROUTE PRINT shows persistent routes. • Record what third-party hardware and software are available, and determine if you have the drivers and software to reconfigure that hardware, for example a more recent operating system, such as Moxa adapter, PCI boards, and so on. • Record the usage of COM-ports, for example COM1 for eCAP, COM2 for pcAnywhere, and so on. • Ensure you have the License file for the dongle that licenses the system. • Make a backup image of the PC, for example with GHOST software.
2	Now you can scratch install the system. Apply the changes gathered in the previous step, for example Computer Name, IP address, and so on.

--End--

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Follow the steps in the next procedure to complete the Upgrade of DECT Messenger from 2.8 to 4.0.

Procedure 57
Completing the upgrade from 2.8 to 4.0

Step	Action
1	Install **DECT Messenger** based upon the latest CD-ROM. Follow all steps in the documentation. Install all prerequisites and components as described in steps 00 to 09. **ATTENTION** After installing 02.01 - Nortel DECT Messenger, copy the file Messenger_CFG.MDB saved in the procedure "Upgrade DECT Messenger from 2.8 to 4.0" (page 254) into the C:\SOPHO Messenger@Net\Mdb.
2	If you saved \Log or \eLOG, restore this data.
3	Make sure the system restarts all modules either through shortcuts in startup group (not recommended), or through task manager in startup group (recommended). You can use the information you saved in the procedure "Upgrade DECT Messenger from 2.8 to 4.0" (page 254). When eKERNEL R4.0 is launched for the first time, the needed upgrade actions are performed automatically on the Messenger_CFG.Mdb. A Message Box informs you on the different database changes applied. This includes support for new modules, such as eLOCATION, eSMS, eSNMP, eOAI, eOAP, and so on, but also other database changes related to the new functionality introduced.
4	Uninstall and install **eCONFIG** instances installed on other systems in the network as well. In some environments eCONFIG is not only available on the main system running eKERNEL, but also on networked PCs of departmental administrators. **ATTENTION** Never reuse or apply an old configuration generated with eCONFIG prior to R4.0. At prompt of eCONFIG that a working database is available, reply **No**.

--End--

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Upgrade DECT Messenger from 2.9 to 4.0

Follow the steps in the next procedure when you want to upgrade DECT Messenger from release 2.9 to release 4.0.

Procedure 58
Upgrading DECT Messenger from 2.9 to 4.0

Step	Action
1	End all activity of DECT Messenger including the following activities. • end all running modules • end Task Manager or Task Manager High Availability, if available. • end the activities in the remote PCs if your modules are distributed among multiple PCs.
2	Make a backup of your current environment. Create a ZIP-file containing the following directories (if available) C:\SOPHO Messenger C:\SOPHO Messenger@Net eCONFIG ***Note:*** Store the ZIP-files in a safe location, especially if you plan to format the PC to scratch install a new operating system.
3	Make a copy of any important items you do not want to lose.
4	Copy the file **Messenger_CFG.MDB** residing in **C:\SOPHO Messenger@Net\Mdb**. This file is very important and is needed later on as it contains your entire configuration.
5	Preserve logging data, if desired. Store the contents of the following directories (if available) • C:\SOPHO Messenger@Net\Log • C:\SOPHO Messenger@Net\eLOG
6	If you are using National Instruments infrastructure, make sure you have a copy of the configuration file. This is a file that usually has the extension IAK. You can produce the file using the Fieldpoint Explorer tool.
7	If you launch eKERNEL and other processes through shortcuts, make sure you have a copy of these shortcuts. The shortcuts probably reside in the Startup group of the Administrator and launch automatically with automated windows logon.

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8 If you use the Task Manager or Task Manager High Availability, export the registry **HKEY_CURRENT_USER\Software\Philips\SOPHO Messenger@Net**.

Make sure you have a copy of this REG-file to be applied again later. You probably have a shortcut to eTM or TM_HA residing in the Startup group of the Administrator and launched automatically with automated windows logon.

9 To continue with the upgrade of DECT Messenger 2.9 to 4.0, choose one of the following two procedures.

- Procedure 55 “Uninstalling previously installed items (recommended)” (page 256)
- Procedure 56 “Installing from scratch (not recommended)” (page 257)

Only perform a scratch install if you have good reasons to do so, as it increases downtime and involves additional risks, as more steps are involved.

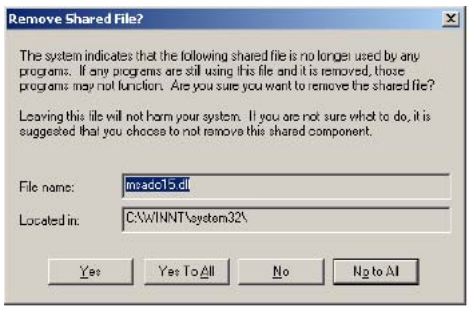
--End--

Procedure 59
Uninstalling previously installed items (recommended)

Step	Action

1 Due to the number of changed items, for example in Prerequisites, Nortel recommends that you uninstall or delete all software related to DECT Messenger.

If the message shown in the following figure appears, click **No to All**.


Remove Shared File?
The system indicates that the following shared file is no longer used by any programs. If any programs are still using this file and it is removed, those programs may not function. Are you sure you want to remove the shared file?
Leaving this file will not harm your system. If you are not sure what to do, it is suggested that you choose to not remove this shared component.
File name:
msadc15.dll
Located in:
C:\WINNT\system32\
Yes
Yes To All
No
No to All

2 Uninstall **C:\SOPHO Messenger@Net**.

3 Uninstall **C:\SOPHO Messenger@Net eCONFIG**.

4 Uninstall the other items related to previous Messenger installation, for example:

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- Prerequisites
- Philips License Manager
- Philips DMS-API Service
- Apache HTTP Server
- Adobe Acrobat Reader
- NI DataSocket
- NI FieldPoint Explorer
- PHP 4.x.x
- Dialogic System Release
- VbVoice 4.x

Note: Some items may not be present in you system.

To continue the upgrade of DECT Messenger, follow the steps in the procedure Procedure 61 “Completing the upgrade from 2.9 to 4.0” (page 262)

--End--

Follow the steps in the next procedure to install DECT Messenger release 4.0 from scratch. Installing from scratch formats the system and erases all the data. Again, only perform a scratch install if you have good reasons to do so, as it increases downtime and involves additional risks, as more steps are involved.

An install from scratch is a recommended option if you want to replace hardware, replace operating system, or you suspect your system is malfunctioning.

Procedure 60
Installing from scratch (not recommended)

Step	Action
1	Verify the following. • Record the Computer Name and presence in workgroup of domain. • Record the Network Setting, such as IP address, subnet mask, and default gateway. • Record if ROUTE PRINT shows persistent routes. • Record what third-party hardware and software are available, and determine if you have the drivers and software to reconfigure that hardware, for example a more recent

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operating system, such as Moxa adapter, PCI boards, and so on.

- Record the usage of COM-ports, for example COM1 for eCAP, COM2 for pcAnywhere, and so on.
- Ensure you have the License file for the dongle that licenses the system.
- Make a backup image of the PC, for example with GHOST software.

2 Now you can scratch install the system. Apply the changes gathered in the previous step, for example Computer Name, IP address, and so on.

--End--

Follow the steps in the next procedure to complete the Upgrade of DECT Messenger from 2.9 to 4.0.

Procedure 61
Completing the upgrade from 2.9 to 4.0

Step	Action
1	Install the **DECT Messenger** based on the latest CD-ROM. Follow all steps in the documentation. Install all prerequisites and components as described in steps 00 to 09.

ATTENTION
After installing 02.01 - Nortel DECT Messenger, copy the file Messenger_CFG.MDB saved in Procedure 58 “Upgrading DECT Messenger from 2.9 to 4.0” (page 259) into the C:\SOPHO Messenger@Net\Mdb.

2 If you saved \Log or \eLOG, restore this data.

3 Make sure the system restarts all modules either through shortcuts in startup group (not recommended), or through task manager in startup group (recommended). You can use the information you saved in the procedure Procedure 58 “Upgrading DECT Messenger from 2.9 to 4.0” (page 259).

When eKERNEL R4.0 is launched for the first time, the needed upgrade actions are performed automatically on the Messenger_CFG.Mdb.

A Message Box informs you on the different database changes applied. This includes support for new modules, such as eLOCATION, eSMS, eSNMP, eOAI, eOAP, and so on, but also other database changes related to the new functionality introduced.

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4 Uninstall and install **eCONFIG** instances installed on other systems in the network as well.

In some environments eCONFIG is not only available on the main system running eKERNEL, but also on networked PCs of departmental administrators.

ATTENTION
Never reuse or apply an old configuration generated with eCONFIG prior to R4.0. At prompt of eCONFIG that a working database is available, reply **No**.

--End--

Upgrade DECT Messenger from 3.0 to 4.0

Follow the steps in the next procedure when you want to upgrade DECT Messenger from release 3.0 to release 4.0.

Procedure 62
Upgrading DECT Messenger from 3.0 to 4.0

Step	Action
1	End all activity of DECT Messenger including the following activities. • end all running modules • end Task Manager or Task Manager High Availability, if available. • end the activities in the remote PCs if your modules are distributed among multiple PCs.
2	Make a backup of your current environment. Create a ZIP-file containing the following directories (if available) C:\SOPHO Messenger C:\SOPHO Messenger@Net eCONFIG. ***Note:*** Store the ZIP-files in a safe location, especially if you plan to format the PC to scratch install a new operating system.
3	Make a copy of any important items you do not want to lose.
4	Copy the file **Messenger_CFG.MDB** residing in **C:\SOPHO Messenger@Net\Mdb**. This file is very important and is needed later on as it contains your entire configuration.
5	Preserve logging data, if desired.

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6 Store the contents of the following directories (if available)

- C:\SOPHO Messenger@Net\Log
- C:\SOPHO Messenger@Net\eLOG

7 If you are using National Instruments infrastructure, make sure you have a copy of the configuration file.

This is a file that usually has the extension IAK. Use the Fieldpoint Explorer tool to create the file.

8 If you launch eKERNEL and other processes through shortcuts, make sure you have a copy of these shortcuts.

The shortcuts probably reside in the Startup group of the Administrator and launch automatically with automated windows logon.

9 If you use the Task Manager or Task Manager High Availability, export the registry HKEY_CURRENT_USER\Software\Philips\SOPHO Messenger@Net.

Make sure you have a copy of this REG-file to be applied again later. You probably have a shortcut to eTM or TM_HA residing in the Startup group of the Administrator and launched automatically with automated windows logon.

ATTENTION
Release 3.0 and release 4.0 are much alike and so it is not necessary to uninstall all release 3.0 items. For example, some prerequisite steps are unchanged.

10 To continue with the upgrade of DECT Messenger 3.0 to 4.0, choose one of the following two procedures.

- Procedure 55 “Uninstalling previously installed items (recommended)” (page 256)
- Procedure 56 “Installing from scratch (not recommended)” (page 257)

Only perform a scratch install if you have good reasons to do so, as it increases downtime and involves additional risks, as more steps are involved.

--End--

Procedure 63
Uninstalling previously installed items (recommended)

Step	Action
1	Uninstall **C:\SOPHO Messenger@Net**.
2	Uninstall **C:\SOPHO Messenger@Net eCONFIG**.

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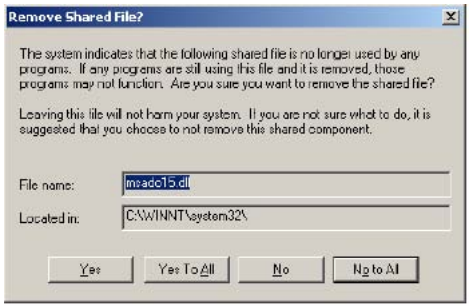
If the message shown in the following figure appears, click **No to All**.


Remove Shared File?
The system indicates that the following shared file is no longer used by any programs. If any programs are still using this file and it is removed, those programs may not function. Are you sure you want to remove the shared file?
Leaving this file will not harm your system. If you are not sure what to do, it is suggested that you choose to not remove this shared component.
File name:
msadc15.dll
Located in:
C:\WINNT\system32\
Yes
Yes To All
No
No to All

3 Release 3.0 and release 4.0 share some items that remain unchanged and so must not be uninstalled. Uninstall only the items that changed compared to your current Messenger installation. Do not uninstall the following unchanged items:

- MDAC 2.8
- TCP Monitor
- MSDE
- National Instruments

The following are changed items that are optional to uninstall.

- Apache HTTP Server
- Adobe Acrobat Reader
- WinZip

The following are changed items and you are required to uninstall these items.

- Philips License Manager
- Dialogic SR5.1 and VBVoice 4.4
- PHP 4.x.x

To continue the upgrade of DECT Messenger, follow the steps in the procedure Procedure 65 “Completing the upgrade from 3.0 to 4.0” (page 266).

--End--

Follow the steps in the next procedure to install DECT Messenger release 4.0 from scratch. Installing from scratch formats the system and erases all the data. Again, only perform a scratch install if you have good reasons to do so, as it increases downtime and involves additional risks, as more steps are involved.

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An install from scratch is a recommended option if you want to replace hardware, replace operating system, or you suspect your system is malfunctioning.

Procedure 64
Installing from scratch (not recommended)

Step	Action
1	Verify the following. • Record the Computer Name and presence in workgroup of domain. • Record the Network Setting, such as IP address, subnet mask, and default gateway. • Record if ROUTE PRINT shows persistent routes. • Record what third-party hardware and software are available, and determine if you have the drivers and software to reconfigure that hardware, for example a more recent operating system, such as Moxa adapter, PCI boards, and so on. • Record the usage of COM-ports, for example COM1 for eCAP, COM2 for pcAnywhere, and so on. • Ensure you have the License file for the dongle that licenses the system. • Make a backup image of the PC, for example with GHOST software.
2	Now you can scratch install the system. Apply the changes gathered in the previous step, for example Computer Name, IP address, and so on.

--End--

Follow the steps in the next procedure to complete the Upgrade of DECT Messenger from 3.0 to 4.0.

Procedure 65
Completing the upgrade from 3.0 to 4.0

Step	Action
1	Install **DECT Messenger** based upon the latest CD-ROM. Follow all steps in the documentation. Install all prerequisites and components as described in steps 00 to 09.

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ATTENTION
If you skipped uninstalling unchanged components, you can skip the reinstalling of the unchanged components.

ATTENTION
After installing 02.01 - Nortel DECT Messenger, copy the file Messenger_CFG.MDB saved in the procedure Procedure 62 "Upgrading DECT Messenger from 3.0 to 4.0" (page 263) into the C:\SOPHO Messenger@Net\Mdb.

2 If you saved \Log or \eLOG, restore this data.

3 Make sure the system restarts all modules either through shortcuts in startup group (not recommended), or through task manager in startup group (recommended). You can use the information you saved in the procedure Procedure 62 "Upgrading DECT Messenger from 3.0 to 4.0" (page 263).

When eKERNEL R4.0 is launched for the first time, the needed upgrade actions are performed automatically on the Messenger_CFG.Mdb.

A Message Box informs you on the different database changes applied. This includes support for new modules, such as eLOCATION, eSMS, eSNMP, eOAI, eOAP, and so on, but also other database changes related to the new functionality introduced.

4 Uninstall and install **eCONFIG** instances installed on other systems in the network as well.

In some environments eCONFIG is not only available on the main system running eKERNEL, but also on networked PCs of departmental administrators.

ATTENTION
Never reuse or apply an old configuration generated with eCONFIG prior to R4.0. At prompt of eCONFIG that a working database is available, reply **No**.

--End--

Upgrade DECT Messenger within release 4.0

This section describes how you can apply changes within DECT Messenger release 4.0.

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This section applies to you if you have a release 4.0 environment and you followed the installation instructions, upgrade instruction, or both. Also you must covered “prerequisite” steps as well as other steps involved in setting up release 4.0.

Naming conventions

At general availability of release 4.0, a CD-ROM was produced with the naming convention "Nortel DECT Messenger - Release 4.0.0 - build 2008.04.23" The “4.0.0” indicates release 4.0 and the "0" indicates the initial release. The “2008.04.23” refers to the internal release date of the build of April 23, 2008.

The CD-ROM image contains a directory structure, with a subdirectory “08 - Updates - 2007.08.11”. This directory typically is empty at initial release. Updates may be available in a future build of a next CD-ROM or through ShareNet.

Applying updates

New updates are published in the subdirectory “08 - Updates - YYYY.MM.DD” structure, where the date reveals the last update time.

If you used, for example build “2007.08.11” and the directory of a future 4.0.0 build has directory structure ““08 - Updates – 2007.12.31”, it indicates between 2007.06.11 and 2007.03.31, some updates exist, and must be applied.

The “08 – Updates – YYYY.MM.DD” directory contains one or more subdirectories.

For example, a subdirectory can exist with name “2007.12.31 - eKERNEL_4.0.1”. This indicates the update provides an update of eKERNEL and introduces eKERNEL 4.0.1.

A “readme” file is typically available giving details on the implemented changes. For example, eKERNEL 4.0.1 can state that is has been enhanced to support a new interface to handle a new module “eFCS” to interface with an add-on module “eFCS” towards a hospitality solution of a specific customer.

Unless stated otherwise, replace the old version of the software with the new version of the software. For example, replace eKERNEL 4.0.0 with 4.0.1. This usually involves the following actions.

- pausing the task manager
- ending the old program

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- copying the new program
- resuming the task manager

In some conditions the introduction of new functionality or enhancement effects more than one file. In such cases, an “InstallShield” or “MSIsetup” file is found.

For example, if in Q3 or Q3 2007, further enhancements to “Web Administrator” are made, resulting in new PHP-pages and other new/update resources, you may find a file “2007.12.32 – Web Administrator” containing a “Web Administrator.msi” file. Installation instructions will be contained in this case.

Refer to the “General - Install PC - Updates” document for more information on updates.

Installing add-ons

Add-on modules are available to extend the functionality of the system. The system stores Premium Package add-on in the directory “09 – Add-ons – 2007.08.11”.

The majority of the add-on modules are licensed separately and their usage requires a software license key from Unified Communications Professional Services (UCPS).

Other contents can be installed in this folder and, of present, is supplied on an *as is* basis. For example, a subdirectory “2007.08.11 - Send SNMP Message” can appear on the disk. This can contain a “readme” file explaining its contents and installation instructions. This program is provided on an as is basis.

The following optional modules are available as part of the Premium Package:

- Serial Interface with known protocol
- ESPA standard interface
- Contacts interface
- Basic WEB interface
- Premium WEB interface
- Messaging to GSM phones
- Messaging to/from e-mail
- Advanced Web based functions

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New build

When the number of “updates” reaches an internal limit, NEC Philips may decide to deliver a new build. The level of the software can then change into, for example “SOPHO Messenger@Net - Release 4.0.1 - build 2008.04.01”.

If special instructions in such a future build apply, the instructions will be documented.

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Install PC - Reinstalling Nortel DECT Messenger

This chapter provides instructions to help you upgrade DECT Messenger within the same Major release.

Follow the steps in Procedure 66 “Upgrading DECT Messenger” (page 271) to reinstall DECT Messenger.

Procedure 66
Upgrading DECT Messenger

Step	Action
1	Stop DECT Messenger. End all activity of DECT Messenger by closing all running modules and (if available) task manager.
2	Create Backups. Make a backup of the current environment, by storing the following directories in a .zip file: C:\SOPHO Messenger@Net and C:\SOPHO Messenger@Net eCONFIG.
3	Back up configuration and log files. • Make a backup copy of the file Messenger_CFG.MDB, which is found in C:\SOPHO Messenger@Net\Mdb. It is important that you have this file available when you reinstall DECT Messenger, because it contains your full configuration. • If you want to preserve logging data, make backups of the following folders: C:\SOPHO Messenger@Net\Log and C:\SOPHO Messenger@Net\eLOG (if available).
4	Uninstall prerequisites (optional). If any of the prerequisite software you are using must be upgraded, Nortel recommends that you uninstall this software now.

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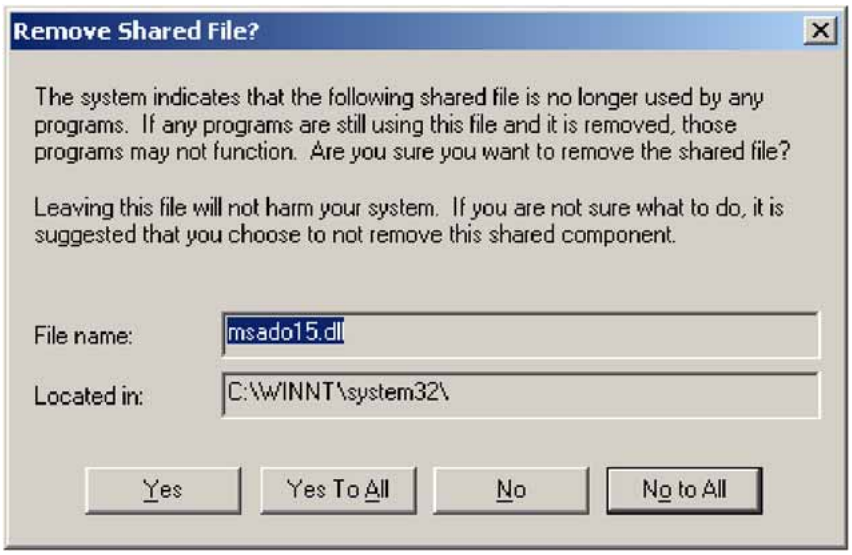
You must install this software again during the installation of the Messenger.

5 Uninstall the Messenger.

- Click **Start** in the Windows task bar, and choose **Control Panel > Add or Remove Programs**.
- Select DECT Messenger from the list.
- Click **Remove**.
- When the following dialog box appears, click **No to All**.


Remove Shared File?
The system indicates that the following shared file is no longer used by any programs. If any programs are still using this file and it is removed, those programs may not function. Are you sure you want to remove the shared file?
Leaving this file will not harm your system. If you are not sure what to do, it is suggested that you choose to not remove this shared component.
File name:
msado15.dll
Located in:
C:\WINNT\system32\
Yes
Yes To All
No
No to All

ATTENTION

In the **Remove Shared File?** dialog box, do not choose any option other than **No to All**, because doing so removes critical files, causing the reinstallation to fail.

- Uninstall eConfig.
- Uninstall eCONFIG instances installed on other systems in the network.
- Remove the following directories: C:\SOPHO Messenger@Net, and C:\SOPHO Messenger@Net eConfig.

6 Install DECT Messenger.

Install DECT Messenger from the latest CD-ROM or CD image, using the steps described in “General - Install PC” (page 11).

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ATTENTION
After completing the steps in “Install PC - Step 2 - Nortel DECT Messenger” (page 95), you must restore the file Messenger_CFG.MDB, which you backed up Step 3 of this procedure, to the folder: C:\SOPHO Messenger@Net\Mdb.

If you saved \Log or \eLOG you can restore that data as well.

ATTENTION
Never reuse or apply an old configuration generated with eCONFIG prior to the Messenger version you are using. Therefore, when eCONFIG appears a dialog box informing you that a working database is available, you must answer **No**.

--End--

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Module eAPI

Introduction

The module eAPI is not a real module, but rather a description of a public Application Program Interface (API) for third-party developers who want to communicate with DECT Messenger. This chapter is intended for developers who want to build an interface to the eKERNEL module.

The objective of this document is to describe how developers can integrate applications with DECT Messenger. Note that the eAPI interface has limited capabilities. An alternative to developing your own program is to contact Nortel and request the development of an integrated solution.

Limitations

Input program functionality only

The functionality implemented in the eAPI interface is limited to the sending of message requests to the eKERNEL module. This process is carried out through so-called message request (msgrqs) transactions. Therefore, third-party application programs that are created using eAPI technology are limited to input program functionality only.

No central configuration

A second limitation in eAPI is that there currently is no support for configuration request messages. In all other modules, there is a central configuration database, where all relevant parameters are centrally administered. This process is normally carried out through configuration requests (cfgrqs) from the module to eKERNEL and configuration replies (cfgrpy) from eKERNEL to the module. As a result, third-party developers must provide their own configuration techniques (through registry, .INI files, database, command line parameters, and so on) to control the behavior of their applications.

Basic architecture

The architecture of eAPI is embedded in the eKERNEL module. The eAPI interface refers to the ability of eKERNEL to provide a TCP server, which listens to a specified port, and receives TCP sockets packages that contain message requests.

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Therefore, when building an eAPI-based third-party product, you require an application that acts as TCP client and establishes a sockets connection to the eKERNEL module, which acts as TCP server.

Depending on the eKERNEL settings, the sockets connections are kept open or are closed after reception of a request. When the socket is kept open, the port remains allocated to the connected client. This is suitable for implementations where a dedicated connection is required. If multiple clients must address the same eKERNEL port, Nortel recommends that you close the socket after each ad hoc request. With this approach, a single port can serve to accept message requests from multiple input sources.

Message format

Message requests to eKERNEL must be formatted according to specific rules. A sample request is illustrated in Figure 45 "Sample message request" (page 276).

Figure 45
Sample message request

```
<xml><msgrqs><set_or_reset>*SET</
set_or_reset><group>1</group><alarmdescr>2</
alarmdescr><msg>3</msg><remove_after>*SENT</
remove_after></msgrqs></xml>
```

The following rules apply:

- The string must start with <xml><msgrqs> and end with </msgrs></xml> tags
- At the end of the string, a carriage return (ASCII 13) and line feed (ASCII 10) must be appended
- The message request must contain 5 parameters
  - The parameter set_or_reset must start with <set_or_reset> tag and end with the </set_or_reset> tag
  - The parameter group must start with <group> tag and end with the </group> tag
  - The parameter alarmdescr must start with <alarmdescr> and end with the </alarmdescr> tag
  - The parameter msg must start with <msg> tag and end with the </msg> tag
  - The parameter remove_after must start with <remove_after> tag and end with the </remove_after> tag

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- The parameter set_or_reset can supports the following values: *SET or *RESET
- The parameter group refers to a configured group defined in the eKERNEL_GROUP table
- The parameter alarm_descry refers to a configured alarm description, defined in the eKERNEL_ALARM table
- The parameter remove_after supports the following values: *SENT, *RESET or *CALC

Refer to the appropriate chapters of this document for more information on the tables.

Introduction to a sockets client

Refer to the documentation of your development environment for more information on sockets programming.

The code sample shown in Figure 46 "Sample socket client code" (page 279) describes an introduction for beginner programmers on how to build a very simple Visual Basic program that contacts the DECT Messenger eKERNEL module and delivers a message request. Note that the source code is provided for illustration only, and does not include error recovery.

Creating a basic sockets client using Visual Basic

Procedure 67
Creating a basic sockets client using Visual Basic

Step	Action
1	Start **Visual Basic**, and open a new project of Standard .EXE type. In the menu, choose **Project > Components** and add the Microsoft Winsock Control compone nt to the project. This component usually refers to C:\WINNT\system32\MSWINSCK.OCX.
2	Drag a **CommandButton** control to the form. You can use the default name Command1.
3	Drag a **Winsock** control to the form. You can use the default name Winsock1.
4	Add the code shown in Figure 46 "Sample socket client code" (page 279) in the **Private Sub Command1_Click**.
5	Specify the correct IP address (the IP address of the system where eKERNEL runs) and port number (the configured port for eAPI, as defined in eKERNEL_TCPCLIENT table).
6	Run the program. If you click the Command1 button, a message request is sent to eKERNEL.

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7 You can alter the code shown in Figure 46 "Sample socket client code" (page 279) to specify the correct parameters for the parameters group (use one of the values specified in the eKERNEL_GROUP table), alarm description (use one of the values specified in the eKERNEL_ALARM table), and so on.

--End--

Note: The code shown in Figure 46 "Sample socket client code" (page 279) is not intended to represent a reliable TCP client, and is meant only to illustrate how to start programming with eAPI using minimal code entry. A real-life program must take all necessary action to handle all error conditions.

The following issues usually require improvement:

- The sample code shown in Figure 46 "Sample socket client code" (page 279) does not respond on the asynchronous connection attempt by means of the Winsock1_Connect() event. The code assumes that the connect succeeds after doing a DoEvents(). The Winsock1.State must be 7 before a SendData can be requested.
- The sample code shown in Figure 46 "Sample socket client code" (page 279) includes appropriate error recovery, but does not respond to failed connection attempts.
- The sample code shown in Figure 46 "Sample socket client code" (page 279) assumes the data is actually transmitted with the SendData, and does not wait for the Winsock1_SendComplete() event.
- The values for IP address and port are hard-coded, and users must be able to set them as parameters in a real-word program.
- The values in the message request are hard-coded, and must be filled with actual alarm information and appropriate configured values, as defined in the configuration database.

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Figure 46
Sample socket client code

```
Private Sub Command1_Click()
' close the socket
Winsock1.Close
' specify eKERNEL protocol, ip addres and port (hardcoded)
Winsock1.Protocol = sckTCPProtocol
Winsock1.RemoteHost = "10.110.50.138"
Winsock1.RemotePort = 3204
' connect to the eKERNEL server
Winsock1.Connect
' we wait indefinitely until asynchronous connect before sending
Do
Select Case Winsock1.State
Case Is <> 7
DoEvents
Case Else
' send the data when connect completes
Winsock1.SendData
"<xml><msgrqs><group>1</group><alarmdescr>2</alarmdescr><message>3</m
essage><set_or_reset>*set</set_or_reset><remove_after>*sent</remove_a
fter></msgrqs><xml>" + Chr$(13) + Chr$(10)
' allow asynchronous event to complete to purge data
DoEvents
Exit Do
End Select
Loop
' close the socket
Winsock1.Close
End Sub
```

More extended program

Refer to “Module - eAPI sample” (page 281) for a detailed source code listing of a more complete implementation of a Visual Basic program that implements eAPI functionality. The compiled program eAPI.exe and the source code eAPI.zip (zipped) are shipped with the DECT Messenger and the .exe is installed when you select eAPI module during custom install.

Note that this code is provided on as-is basis, and is not intended to be used without modification. Usage of the code is the responsibility of the third-party developer, as all aspects needed to make the code reliable are not implemented.

The eAPI program is designed to provide the same look and feel as is found in other DECT Messenger modules.

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Some typical features include:

- Ability to specify certain runtime parameters of the program by means of the command line parameters in the shortcut, such as: /Site:2 /eKernel address:*LOCAL /eKernel port:3209 /Log drive:C
- A menu that provides a queue (list) that the module can use to handle situations in which eKERNEL is temporarily unavailable.
- Logging facilities on-screen, with the option to left-click a log entry to see details.
- Logging facilities to disk, in the same directory structure mechanism as used for all other modules.

Real-world examples

Using eAPI, you can write external applications in your language of choice (Visual Basic, C++, Java, and so on). These applications can collect alarm information from external systems, for example by means of asynchronous communications or a network connection.

It is important however to realize that the scope of the eAPI interface to eKERNEL is limited, and there is for instance no ability to give feedback to eAPI (and the alarm system) upon successful or failed message delivery within DECT Messenger.

Nortel recommends investigating alternatives, such as reusing an existing module of DECT Messenger (for example, eCAP generic) or contacting Nortel to request the development of a new integrated module. There is a road-map procedure within the Nortel group that keeps track of all new requirements.

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Module - eAPI sample

```
eAPI_form - 1
Option Explicit
' ------------------------------------
' This program requires a valid command$
' ------------------------------------
' /Site:1
' /eKernel address:*LOCAL or value xxx.xxx.xxx.xxx
'/eKernel port:2001
' /Log drive:C
' ------------------------------------
Private Function parse_cmd_line(keyword As String) As String
' This routine isolates the value of a keyword from the command$
Dim lcl_cmd As String
Dim lcl_str As Integer
Dim lcl_end As Integer
On Error Resume Next
Err = 0
lcl_cmd = g_command
lcl_str = InStr(1, UCase(lcl_cmd), / & UCase(keyword) & :)
If lcl_str = 0 Then
parse_cmd_line = N/A
log S, INF, Warning :  parameter ' & keyword & ' not available in ' & lcl_cmd & '

Else
lcl_end = InStr(lcl_str + 1, UCase(lcl_cmd) + /, /)
parse_cmd_line = Mid$(g_command + Space$(5), lcl_str + 2 + Len(keyword),
lcl_end - lcl_st
r - Len(keyword) - 3)
End If
If Err Then
MsgBox (Err.Description & - Unexpected error in parse_cmd_line() function)
log E, ERR, Err.Description & - Unexpected error in parse_cmd_line() function
End If
On Error GoTo 0
End Function
Private Function parse_xml(keyword As String, xml As String) As String
' Isolates the 'value' for a 'keyword' from a 'xml' string
' When no value is found, 'N/A' is returned
On Error Resume Next:  Err = 0
```


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```
Dim lcl_start As Integer
Dim lcl_end As Integer
Dim lcl_from As String
Dim lcl_to As String
Dim lcl_value As String
lcl_from = LCase$(< & keyword & >)
lcl_to = LCase$(</ & keyword & >)
lcl_start = InStr(1, LCase$(xml), lcl_from)
lcl_end = InStr(lcl_start + Len(lcl_from), LCase$(xml), lcl_to)
lcl_value = Mid$(xml, lcl_start + Len(lcl_from), 1 + lcl_end - lcl_start -
Len(lcl_to))
If Err Then
parse_xml = N/A
log S, INF, Warning :  parameter ' & keyword & ' not available in ' & xml & '

Else
parse_xml = lcl_value
End If
On Error GoTo 0
End Function
Private Sub lab_message_Click()
End Sub
Private Sub cmd_transmit_Click()
Dim lcl_xml As String
' Validate
If Trim$(txt_group) = Then
lab_msg = Error.  Group must be entered.
txt_group.SetFocus
Exit Sub
End If
If Trim$(txt_alarmdescr) = Then
lab_msg = Error.  Alarm description must be entered.
txt_alarmdescr.SetFocus
eAPI_form - 2
Exit Sub
End If
If Trim$(txt_msg) = Then
lab_msg = Error.  Message must be entered.
txt_msg.SetFocus
Exit Sub
End If
' Build XML string
lcl_xml = <xml><msgrqs> '<site> & g_site & </site>
lcl_xml = lcl_xml + <set_or_reset> & cbo_set_or_reset & </set_or_reset>
lcl_xml = lcl_xml + <group> & Trim$(txt_group) & </group>
lcl_xml = lcl_xml + <alarmdescr> & Trim$(txt_alarmdescr) & </alarmdescr>
lcl_xml = lcl_xml + <msg> & Trim$(txt_msg) & </msg>
lcl_xml = lcl_xml + <remove_after> & cbo_remove_after & </remove_after>
lcl_xml = lcl_xml + </msgrqs></xml>
' Submit request
eAPI_form.lst_ekernel_outq.AddItem lcl_xml
```


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```
' Inform user
lab_msg = Message submitted to eKERNEL.
End Sub
Private Sub Form_QueryUnload(Cancel As Integer, UnloadMode As Integer)
Dim lcl_o As String
' Submit <pgmsts> shutdown request to ekernel if connected
On Error Resume Next:  Err = 0
If ip_ekernel.State = 7 Then
lcl_o = <xml><pgmsts><value>Shutdown</value></pgmsts></xml>
ip_ekernel.SendData lcl_o + Chr$(13) + Chr$(10)
If Err Then
lab_msg = Error & Err & - & Err.Description
log E, ERR, TCP senddata error & Err & - & Err.Description & - & l
cl_o & could not be sent to eKERNEL
Else
lst_ekernel_outq.RemoveItem 0
log O, TCP, lcl_o
End If
On Error GoTo 0
End If
DoEvents
' log
log S, INF, Application ended
' end
End
End Sub
Private Sub lst_log_DblClick()
' show details
On Error Resume Next:  Err = 0
txt_log.Text = lst_log.List(lst_log.ListIndex)
On Error GoTo 0
show_pages
End Sub
Private Sub Form_KeyDown(KeyCode As Integer, Shift As Integer)
'F3=Exit
If KeyCode = 114 Then
Unload Me
'End
End If
End Sub
Private Sub Form_Load()
Dim lcl_rc As String
Dim lcl_o
Dim lcl_version
Dim Lcl_Msg As String
Dim lcl_h As Integer
' Set application title
Me.Caption = eAPI - SOPHO Messenger@Net - v & App.Major & .  & App.Minor & .  &
App.R
evision
' Startup values required to enable logging
```


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```
g_log_path = D:\SOPHO Messenger@Net
g_log_days = 14
lab_log_path = & g_log_path
lab_log_days = & g_log_days
' Default command line parameters
eAPI_form - 3
' /Site:1 /eKernel address:*LOCAL /eKernel port:3209 /Log drive:C
g_command = Command$
If g_command = Then
Lcl_Msg = Warning:  eAPI is started without command line parameters.  +
Chr$(10) + Ch
r$(10)
Lcl_Msg = Lcl_Msg + Check the command string in the target value in the
properties o
f the shortcut.  + Chr$(10) + Chr$(10)
Lcl_Msg = Lcl_Msg + Please confirm to start this session with the following
replacem
ent values:  + Chr(10) + Chr$(10)
g_command = /Site:2 /eKernel address:*LOCAL /eKernel port:3209 /Log drive:C
lcl_rc = InputBox(Lcl_Msg, Me.Caption, g_command)
If lcl_rc = Then
End
Else
g_command = lcl_rc
End If
End If
'Initialise screen labels
lab_ekernel_remote_address = N/A
lab_ekernel_remote_port = N/A
lab_ekernel_local_address = N/A
lab_ekernel_local_port = N/A
' Get command line parameter
g_site = parse_cmd_line(Site)
g_ekernel_remote_address = parse_cmd_line(eKernel address)
g_ekernel_remote_port = parse_cmd_line(eKernel port)
g_log_drive = parse_cmd_line(Log drive)
' Handle special values
If g_ekernel_remote_address = *LOCAL Then g_ekernel_remote_address =
ip_ekernel.LocalIP
' Start
log S, INF, Application & Me.Caption & started with parameters & g_command
' Terminate if undefined values
If g_site = N/A Then
lcl_rc = MsgBox(eAPI could not start.  Parameter '/Site:xxx' missing in
command strin
g., vbCritical, eAPI - SOPHO Messenger@Net)
Unload Me
End If
If g_ekernel_remote_address = N/A Then
lcl_rc = MsgBox(eAPI could not start.  Parameter '/eKernel address:xxx.xxx.xx
x.xxx' m
```


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```
issing in command string., vbCritical, eAPI - SOPHO Messenger@Net)
Unload Me
End If
If g_ekernel_remote_port = N/A Then
lcl_rc = MsgBox(eAPI could not start.  Parameter '/eKernel port:xxxxx' missing
in com
mand string., vbCritical, eAPI - SOPHO Messenger@Net)
Unload Me
End If
If g_log_drive = N/A Then
lcl_rc = MsgBox(eAPI could not start.  Parameter '/Log drive:x' missing in
command st
ring., vbCritical, eAPI - SOPHO Messenger@Net)
Unload Me
End If
If Len(g_log_drive) <> 1 Then
lcl_rc = MsgBox(eAPI could not start.  Parameter '/Log drive:x' is invalid in
command
string., vbCritical, eAPI - SOPHO Messenger@Net)
Unload Me
End If
' Update screen labels
lab_ekernel_remote_address = & g_ekernel_remote_address
lab_ekernel_remote_port = & g_ekernel_remote_port
' Initialise eAPI screen fields
With cbo_set_or_reset
.Clear
.AddItem *SET
.AddItem *RESET
.ListIndex = 0
End With
With cbo_remove_after
.Clear
.AddItem *SENT
.AddItem *RESET
.AddItem *CALC
eAPI_form - 4
.ListIndex = 0
End With
' Set socket state indicator to defaults
lab_ekernel_state.Backcolour = RGB(0, 0, 0)
' Show copyright
lab_msg = & App.LegalCopyright
' Initialise CFGRQS variables
g_log_path = g_log_drive + :\SOPHO Messenger@Net
g_log_days = 14
lab_log_path = & g_log_path
lab_log_days = & g_log_days
' Ininitialise guarding
g_guarding = Timer
' Enable timer for eKernel
```


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```
tim.Interval = 100
tim.Enabled = True
End Sub
Private Sub ip_ekernel_Connect()
Dim lcl_version As String
Dim lcl_o As String
' Update screen
g_ekernel_local_address = ip_ekernel.LocalIP
lab_ekernel_local_address = & g_ekernel_local_address
g_ekernel_local_port = ip_ekernel.LocalPort
lab_ekernel_local_port = & g_ekernel_local_port
' log S, INF, TCP local port & Format$(g_ekernel_local_port, 00000) & connected
with remote port & Format$(g_ekernel_remote_port, 00000) & (eKERNEL)
End Sub
Private Sub ip_ekernel_DataArrival(ByVal bytesTotal As Long)
' ip data received
lab_msg = Data arrival - & bytesTotal & bytes received from eKERNEL
Dim lcl_i As String
ip_ekernel.GetData lcl_i, vbString
' Append to buffer, and isolate a valid <xml>xxxx</xml> sockets data stream
g_ekernel_buffer = g_ekernel_buffer + lcl_i
Dim lcl_str_xml As Integer
Dim lcl_end_xml As Integer
Dim lcl_dta_xml As String
' Begin Loop
Do
' Check if <xml> string occurs
lcl_str_xml = InStr(g_ekernel_buffer, <xml>)
' Incomplete block without <xml> is not yet processed
If lcl_str_xml = 0 Then Exit Do
' Check if </xml> string occurs
lcl_end_xml = InStr(lcl_str_xml, g_ekernel_buffer, </xml> + Chr$(13) +
Chr$(10)
)
' Incomplete block without </xml> is not yet processed
If lcl_end_xml = 0 Then Exit Do
Both <xml> and </xml> tags are found, isolate this data stream
lcl_dta_xml = Mid$(g_ekernel_buffer, lcl_str_xml, (lcl_end_xml -
lcl_str_xml) + 8
)
' Keep remainder of this data stream (if any is available)
g_ekernel_buffer = Mid$(g_ekernel_buffer, lcl_str_xml + Len(lcl_dta_xml))
' Add to listbox
log I, TCP, lcl_dta_xml
' Submit request to ekernel jobqueue
lst_ekernel_jobq.AddItem lcl_dta_xml
' End loop
Loop
End Sub
Private Sub ip_ekernel_Error(ByVal number As Integer, Description As String,
ByVal Scode As L
```


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```
ong, ByVal Source As String, ByVal HelpFile As String, ByVal HelpContext As
Long, CancelDispl
ay As Boolean)
lab_msg = Error & number & - & Description
log E, ERR, TCP error & number & - & Description & (eKERNEL)
End Sub
Private Sub mnu_ekernel_disconnect_Click()
ip_ekernel.Close
lab_ekernel_state.Backcolour = RGB(0, 0, 0)
g_ekernel_local_address = N/A
g_ekernel_local_port = N/A
eAPI_form - 5
lab_ekernel_local_port = & g_ekernel_local_port
lab_ekernel_local_address = & g_ekernel_local_address
End Sub
Private Sub process_ekernel()
Dim lcl_o As String
Dim lcl_version As String
' Handle sockets status - continuously attempt to stay connected
Dim lcl_ekernel_cur_state As Integer
lcl_ekernel_cur_state = ip_ekernel.State
If lcl_ekernel_cur_state <> g_ekernel_prv_state Then
g_ekernel_prv_state = lcl_ekernel_cur_state
Select Case lcl_ekernel_cur_state
Case 0
lab_ekernel_msg = Closed
lab_ekernel_state.BackColor = RGB(0, 0, 0)
Case 1
lab_ekernel_msg = Open
lab_ekernel_state.BackColor = RGB(200, 130, 0)
Case 2
lab_ekernel_msg = Listening
lab_ekernel_state.BackColor = RGB(255, 255, 0)
Case 3
lab_ekernel_msg = Connection pending
lab_ekernel_state.BackColor = RGB(200, 130, 0)
Case 4
lab_ekernel_msg = Resolving host
lab_ekernel_state.BackColor = RGB(200, 130, 0)
Case 5
lab_ekernel_msg = Host resolved
lab_ekernel_state.BackColor = RGB(200, 130, 0)
Case 6
lab_ekernel_msg = Connecting
lab_ekernel_state.BackColor = RGB(200, 130, 0)
Case 7
lab_ekernel_msg = Connected
lab_ekernel_state.BackColor = RGB(0, 200, 0)
Case 8
lab_ekernel_msg = Closing
lab_ekernel_state.BackColor = RGB(200, 130, 0)
```


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```
Case 9
lab_ekernel_msg = Error
lab_ekernel_state.BackColor = RGB(128, 0, 0)
Case Else
End Select
End If
' Only process if ekernel_outq is populated
If lst_ekernel_outq.ListCount = 0 Then Exit Sub
' Not yet connected
If ip_ekernel.State <> 7 Then
On Error Resume Next
Err = 0
If ip_ekernel.State <> sckClosed Then ip_ekernel.Close
g_ekernel_local_address = N/A
g_ekernel_local_port = N/A
lab_ekernel_local_address = & g_ekernel_local_address
lab_ekernel_local_port = & g_ekernel_local_port
ip_ekernel.RemoteHost = g_ekernel_remote_address
ip_ekernel.RemotePort = g_ekernel_remote_port
ip_ekernel.Connect
DoEvents
Exit Sub
On Error GoTo 0
End If
' Connected
g_ekernel_local_address = ip_ekernel.LocalIP
g_ekernel_local_port = ip_ekernel.LocalPort
lab_ekernel_local_address = & g_ekernel_local_address
lab_ekernel_local_port = & g_ekernel_local_port
'
------------------------------------------------------------------------
-
' Handle requests in ekernel jobqueue
'
------------------------------------------------------------------------
-
While lst_ekernel_jobq.ListCount > 0
process_ekernel_jobq lst_ekernel_jobq.List(0)
lst_ekernel_jobq.RemoveItem 0
eAPI_form - 6
Wend
'
------------------------------------------------------------------------
-
' Handle requests in ekernel outq
'
------------------------------------------------------------------------
-
On Error Resume Next:  Err = 0
Do While lst_ekernel_outq.ListCount > 0
lcl_o = lst_ekernel_outq.List(0)
```


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```
ip_ekernel.SendData lcl_o + Chr$(13) + Chr$(10)
If Err Then
lab_msg = Error & Err & - & Err.Description
log E, ERR, Error & Err & - & Err.Description & during SendData & lcl_
o & to eKERNEL
Exit Do
Else
lst_ekernel_outq.RemoveItem 0
log O, TCP, lcl_o
End If
Loop
On Error GoTo 0
'
--------------------------------------------------------------------------
----
' Close socket after send
'
--------------------------------------------------------------------------
----
DoEvents
ip_ekernel.Close
' Set socket state indicator to defaults
lab_ekernel_state.BackColor = RGB(0, 0, 0)
' Update screen
g_ekernel_local_address = ip_ekernel.LocalIP
lab_ekernel_local_address = & g_ekernel_local_address
g_ekernel_local_port = ip_ekernel.LocalPort
lab_ekernel_local_port = & g_ekernel_local_port
'-------------------------------------------------------------------------
----
End Sub
Private Sub process_ekernel_jobq(cmd As String)
Dim lcl_rc As Integer
' <xxxxxx>
If Left$(cmd + Space$(13), 13) = <xml><xxxxxx> Then
' TODO - you could add code here
End If
' <yyyyyy>
If Left$(cmd + Space$(13), 13) = <xml><yyyyyy> Then
' TODO : you could add code here
End If
End Sub
Sub show_pages()
lab_log = Format$(lst_log.ListIndex + 1, 00) & / & Format$(lst_log.ListCount,
00)
End Sub
Private Sub tim_Timer()
Dim lcl_guarding As Variant
' Disable timer to prevent recursive calls
tim.Enabled = False
' Update clock
```


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```
lab_clock = & Format$(Now, hh:nn:ss)
' Update guarding
lcl_guarding = Timer - g_guarding
If lcl_guarding < 0 Then lcl_guarding = lcl_guarding + 86400
If (lab_guarding <> Format$(lcl_guarding, 00000)) Then
lab_guarding = Format$(lcl_guarding, 00000)
End If
' Process ekernel
process_ekernel
' Enable timer to resume processing
tim.Enabled = True
End Sub
Private Sub txt_log_GotFocus()
lst_log.SetFocus
End Sub
Sub log(log_type As String, log_sts As String, log_dta As String)
Dim lcl_rc As Integer
' Check log_type
Select Case log_type
eAPI_form - 7
Case I
Case O
Case S
Case E
Case Else
lcl_rc = MsgBox(Invalid log type & log_type)
Exit Sub
End Select
' Check log_sts
Select Case log_sts
Case TCP
Case COM
Case INF
Case ERR
Case Else
lcl_rc = MsgBox(Invalid log status & log_sts)
Exit Sub
End Select
' Add log data to listbox
lst_log.AddItem log_type & :  & log_sts & :  & log_dta
Do While lst_log.ListCount > 99
lst_log.RemoveItem 0
Loop
lst_log.ListIndex = lst_log.ListCount - 1
'--------------------------------------------------------------------------
--------
' Add log data to logfile
'
--------------------------------------------------------------------------
-------
' do not log is g_log_days=0
```


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```
If g_ekernel_remote_port = Then Exit Sub
' build directory and file
Dim lcl_path As String
Dim lcl_file As String
' start error recovery
On Error Resume Next:  Err = 0
' if specified drive is valid, try to toggle between C: drive and D: drive
Err = 0
Dim lcl_chk As Integer
lcl_chk = Len(Dir$(g_log_path, vbDirectory))
lcl_path = g_log_path
If Len(Dir$(lcl_path, vbDirectory)) = 0 Then
MkDir lcl_path
End If
lcl_chk = Len(Dir$(g_log_path, vbDirectory))
If ((Err = 52) Or (lcl_chk = 0)) Then
Select Case Left$(g_log_path, 3)
Case C:\
g_log_path = D:\ + Mid$(g_log_path, 4)
lab_log_path = & g_log_path
Case D:\
g_log_path = C:\ + Mid$(g_log_path, 4)
lab_log_path = & g_log_path
Case Else
g_log_path = C:\ + Mid$(g_log_path, 4)
lab_log_path = & g_log_path
End Select
End If
Err = 0
' make D:\SOPHO Messenger@Net
lcl_path = g_log_path
If Len(Dir$(lcl_path, vbDirectory)) = 0 Then
MkDir lcl_path
End If
' make D:\SOPHO Messenger@Net\log
lcl_path = lcl_path + \log
If Len(Dir$(lcl_path, vbDirectory)) = 0 Then
MkDir lcl_path
End If
' make D:\SOPHO messenger@Net\log\02001_eAPI
lcl_path = lcl_path + \ + Format$(g_ekernel_remote_port, 00000) + _eAPI
If Len(Dir$(lcl_path, vbDirectory)) = 0 Then
MkDir lcl_path
End If
' Kill log-files older then x days if g_LastLogFile not today
If Mid$(g_LastLogFile, 1, 8) <> Format$(Now, yyyymmdd) Then
eAPI_form - 8
KILL_OLD_LOGFILES lcl_path
End If
' make 20001030.txt
lcl_file = Format$(Now, yyyymmdd) & .txt
```


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```
g_LastLogFile = lcl_file
' open file D:\SOPHO messenger@Net\log\02001_eAPI\20001030txt
Open lcl_path & \ & lcl_file For Append As 1
' write log record
Print #1, Format$(Now, dd/mm/yyyy hh:mm:ss) & - & log_type & :  & log_sts & :  &
log_dta
' close log file
Close 1
' disable error recovery
On Error GoTo 0
End Sub
```


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Module - eASYNC

The module eASYNC consists of one program eASYNC.exe, written in Visual Basic.

Overview

eASYNC.exe

The eASYNC.exe is the Visual Basic component of the eASYNC module. The program communicates with two processes: the eKERNEL.exe and the asynchronous modem attached to a COM port. The eKERNEL.exe is the central engine that centralizes all database access and communication with input and output capable modules.

The eASYNC.exe communicates with eKERNEL.exe by means of TCP sockets. In this communication, eASYNC.exe is a TCP client software that connects to the other component, acting as TCP server software.

At startup, eASYNC.exe contacts the eKERNEL.exe by means of a socket connection. Startup parameters are required to identify eASYNC.exe, and locate the eKERNEL.exe program. These parameters are set in the Properties section of the shortcut that initiates eASYNC.exe. This shortcut is usually located in the Windows Startup group (click **Start**, and choose **Programs > Startup**).

Figure 47
Typical parameters in the shortcut

```
"C:\SOPHO Messenger@Net\Exe\eASYNC.exe"
/Site:1
/eKernel port:3105
/eKernel address:*LOCAL
/Log drive:C
```

In the example in Figure 47 "Typical parameters in the shortcut" (page 293), the eASYNC.exe identifies itself as belonging to Site 1, and specifies the location of eKERNEL through IP address *LOCAL and port 3105. The special value *LOCAL refers to the assigned IP address of the first NIC adapter found in the PC. You can find this use the IPCONFIG.exe

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command or in the appropriate sections of the Windows network settings. The keyword Log drive refers to the drive in which the logging data must be stored; usually this is the C:-drive, referring to C:\SOPHO Messenger@Net\Log\ structure.

At startup, the eASYNC.exe sends an XML string to eKERNEL.exe requesting a configuration. This step is needed for each module that interacts with eKERNEL.exe, because this approach allows central administration using a single database, even if some client modules are located on a distributed machine.

Figure 48
A typical cfgrqs configuration request and reply

```
<xml>
<cfgrqs>
<appl>eASYNC</appl>
<site>1</site>
</cfgrqs>
</xml>
```

```
<xml>
<cfgrpy><interface_cnt>2</interface_cnt>
<com_port_01>COM02</com_port_01>
<settings_01>9600,N,8,1</settings_01>
<type_01>PAGING</type_01>
<provider_01>BELGACOM</provider_01>
<password>*NONE</password>
<number_01>00452500001</number_01>
<init_01>AT&C0S0=3</init_01>
<rty_intv_01>60</rty_intv_01>
<rty_cnt_01>1</rty_cnt_01>
<snd_depth_01>1</snd_depth_01>
<snd_time_01>600</snd_time_01>
<com_port_02>COM02</com_port_02>
<settings_02>9600,N,8,1</settings_02>
<type_02>SMS</type_02>
<provider_02>PROXIMUS</provider_02>
<password>proximus</password>
<number_02>00475161622</number_02>
<init_02>AT&C0S0=3</init_02>
<rty_intv_02>60</rty_intv_02>
<rty_cnt_02>2</rty_cnt_02>
<snd_depth_02>1</snd_depth_02>
<snd_time_02>600</snd_time_02>
<log_path>C:\SOPHO Messenger@net</log_path>
<log_days>1</log_days>
</cfgrpy>
</xml>
```


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Refer to the appropriate sections on the database tables that define the received parameters for more information on each value. The information in this document is provided for informational purposes; detailed description of these internal inter-process communications is beyond the scope of this document.

If the <cfgrpy> shown in Figure 48 "A typical cfgrqs configuration request and reply" (page 294) is received, a license for eASYNC is valid.

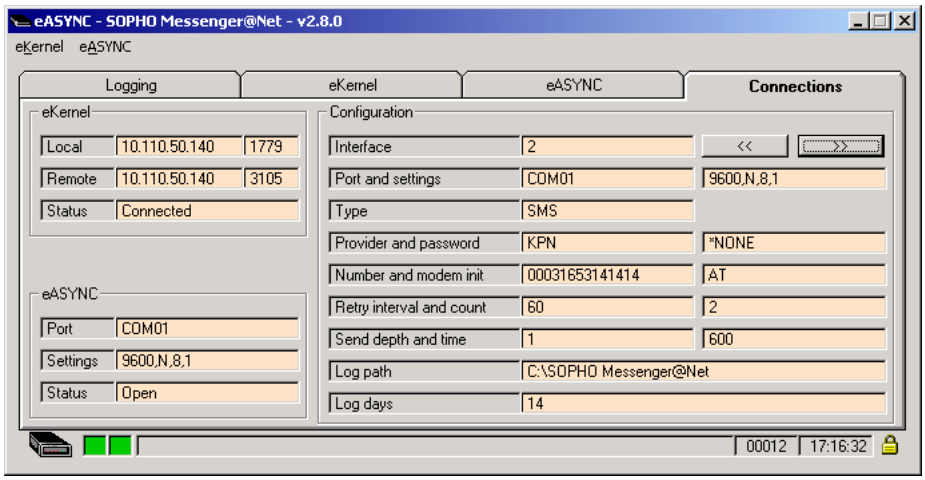
If the <cfgrpy> shown in Figure 49 "eASYNC module receives this cfgrpy from the eKernel if no license is available for eASYNC" (page 295) is received, no license is available, and the eASYNC module cannot connect to the eKernel module anymore.

Figure 49
eASYNC module receives this cfgrpy from the eKernel if no license is available for eASYNC

```
<xml>
<cfgrpy>
<licence>No licence available></licence>
</cfgrpy>
</xml>
```

The eASYNC Connections tab is shown in Figure 50 "eASYNC Connections tab" (page 295).

Figure 50
eASYNC Connections tab



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The eASYNC module receives message requests from eKERNEL. After processing, feedback is sent from eASYNC to eKERNEL. Figure 51 "Sample eKERNEL message request and eASYNC feedback" (page 296) shows an example of a message request and the feedback generated by eASYNC.

Figure 51
Sample eKERNEL message request and eASYNC feedback

```
<xml>
<msgrqs><id>00005</id>
<type>SMS</type>
<provider>PROXIMUS</provider>
<password>proximus</password>
<to>32475353215</to>
<pag_01>test message</pag_01>
<pag_more>N</pag_more>
</msgrqs>
</xml>
```

```
<xml>
<msgrpy>
<id>00005</id>
<sts>NACK - No carrier while waiting for connection^</sts>
</msgrpy>
</xml>
```

During communications, eASYNC contacts the provider and handle the dialog that is required to deliver the message. The transactions are processed on a first-in first-out basis. However, configuration settings can be active that request a wait time or a queue depth that must be reached prior to initiating the communication process. This is especially relevant for SMS messaging to PROXIMUS or KPN, because these providers support the ability to deliver more than one SMS message during one single dial-up connection.

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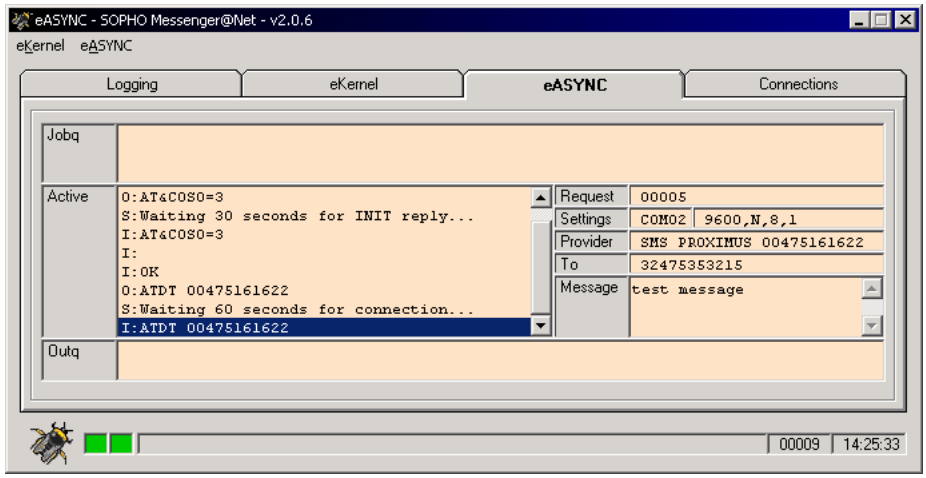
Figure 52
eASYNC tab



Logging

Logging information is available both on-screen and in logging files.

You can view on-screen logging through the Logging tab.

Figure 53
eASYNC Logging tab

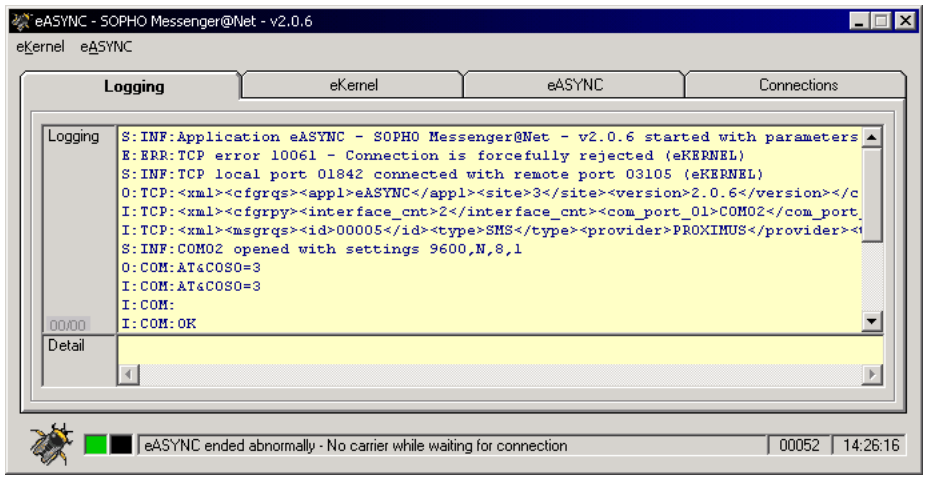


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Figure 54
Sample logging data for SMS to PROXIMUS

```
19/03/2001 10:57:25 - S:INF:COM02 opened with settings 9600,N,8,1
19/03/2001 10:57:26 - O:COM:AT&C0S0=3
19/03/2001 10:57:26 - O:COM:ATDT 00475161622
19/03/2001 10:57:27 - I:COM:AT&C0S0=3
19/03/2001 10:57:27 - I:COM:
19/03/2001 10:57:27 - I:COM:OK
19/03/2001 10:57:27 - I:COM:ATDT 00475161622
19/03/2001 10:57:49 - I:COM:
19/03/2001 10:57:49 - I:COM:CONNECT 33600 V42bis
19/03/2001 10:57:50 - O:COM:_01/00121/O/01/32475353215//proximus/3/
534D5320746F2050726F78696D75732077697468820534F50484F204D657373656E67657
2404E6574/A3_
19/03/2001 10:57:54 - I:COM:connected
19/03/2001 10:57:54 - I:COM:_01/00019/R/01/A//69_
19/03/2001 10:57:55 - S:INF:Port closed
19/03/2001 10:57:55 - O:TCP:<xml><msgrpy><id>00002</id><sts>ACK^</
sts></msgrpy></xml>
```

Figure 55
Sample logging data for SMS to KPN

```
S:INF:COM03 opened with settings 9600,N,8,1
02-05-2002 13:57:37 - O:COM:AT
02-05-2002 13:57:38 - I:COM:AT
02-05-2002 13:57:38 - I:COM:
02-05-2002 13:57:38 - I:COM:OK
02-05-2002 13:57:39 - O:COM:ATDT 00653141414
02-05-2002 13:57:43 - I:COM:ATDT 00653141414
02-05-2002 13:58:16 - I:COM:
02-05-2002 13:58:16 - I:COM:CONNECT 33600 V42bis
02-05-2002 13:58:17 - O:COM:_01/00084/O/01/0620032328///3/
456D657267656E637920534F532031204576616375617469 6F6E/E2_
02-05-2002 13:58:33 - S:INF:Port closed
02-05-2002 13:58:33 - O:TCP:<xml><msgrpy><id>00142</id><sts>ACK^</
sts></msgrpy></xml>
```


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Figure 56
Sample logging data for PAGING to BELGACOM

```
19/03/2001 15:56:08 - S:INF:COM02 opened with settings 9600,N,8,1
19/03/2001 15:56:09 - O:COM:AT&C0S0=3
19/03/2001 15:56:10 - I:COM:AT&C0S0=3
19/03/2001 15:56:10 - I:COM:
19/03/2001 15:56:10 - I:COM:OK
19/03/2001 15:56:09 - O:COM:ATDT 00452500001
19/03/2001 15:56:10 - I:COM:OK
19/03/2001 15:56:10 - I:COM:ATDT 00452500001
19/03/2001 15:56:34 - I:COM:
19/03/2001 15:56:34 - I:COM:CONNECT 14400 V42bis
19/03/2001 15:56:40 - I:COM:_
19/03/2001 15:56:40 - I:COM:WELCOME TO THE BELGACOM PAGING SERVICE.
19/03/2001 15:56:40 - I:COM:-------------------------------------
19/03/2001 15:56:40 - I:COM:You can call numbers in the range:
19/03/2001 15:56:40 - I:COM:2xxxxxx, 3xxxxxx, 8xxxxxx, 9xxxxxx
19/03/2001 15:56:40 - I:COM:Correction with backspace, delete or @
19/03/2001 15:56:40 - I:COM:Terminate each input with "RETURN-KEY"
19/03/2001 15:56:40 - I:COM:Disconnect with "ctrl-D"
19/03/2001 15:56:40 - I:COM:_
19/03/2001 15:56:40 - I:COM:****IMPORTANT INFORMATION****      +98+
19/03/2001 15:56:40 - I:COM:NEW  "Email Notification for paging"
19/03/2001 15:56:40 - I:COM:Interested: Send a mail to : Email.pag-
ing@belgacom.be
19/03/2001 15:56:41 - I:COM:or Contact 02/5406161(NL) - 02/5406302(FR)
19/03/2001 15:56:42 - I:COM:www.belgacom.be/cgi-bin/echannel/web/in-
dex.jsp?LANGUAGE=EN&DIVISION=RES
19/03/2001 15:56:42 - I:COM:Select:
19/03/2001 15:56:42 - I:COM:Catalog/Mobiles Solutions/Pagers   +99+
19/03/2001 15:56:42 - I:COM:_
19/03/2001 15:56:42 - I:COM:Type the 7 digits of the
19/03/2001 15:56:42 - I:COM:wanted pager-number:               +01+
19/03/2001 15:56:43 - O:COM:9789074
19/03/2001 15:56:44 - I:COM:.......
19/03/2001 15:56:44 - I:COM:9789074
19/03/2001 15:56:44 - I:COM:
19/03/2001 15:56:44 - I:COM:Type your alpha-numeric message.   +30+
19/03/2001 15:56:45 - O:COM:Test paging to Belgacom with SOPHO Messen-
ger@Net

continued on next page...
```


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```
19/03/2001 15:56:46 -
I:COM:_[?7h.....................................................
.....................................................................
.........................
19/03/2001 15:56:46 - I:COM:_[A_[ATest paging to Belgacom with SOPHO Mes-
senger@Net
19/03/2001 15:56:47 - I:COM:
19/03/2001 15:56:47 - I:COM:CALL ACCEPTED.                    +80+
19/03/2001 15:56:48 - S:INF:Port closed
19/03/2001 15:56:48 - O:TCP:<xml><msgrpy><id>00001</id><sts>ACK^</
sts></msgrpy></xml>
```


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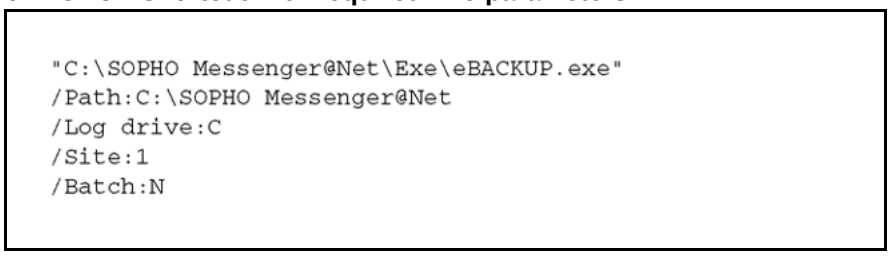
Module - eBACKUP

You can use the eBACKUP module to make a backup of a predefined list of files.

The eBACKUP.exe must be started from a shortcut, which provides a number of command line parameters. Figure 57 "eBACKUP shortcut with required line parameters" (page 301) shows an example of a shortcut with the required command line parameters:

Figure 57
eBACKUP shortcut with required line parameters



The following keywords are available:

- Path specifies the default path where the MDB subdirectory resides.
- Log drive specifies the letter of the drive in which logging information resides.
- Site specifies the site identifier to be saved.
- Batch specifies whether the application runs in interactively or in batch. In batch mode you do not need to click the Backup site Close button to close the program after execution. Batch is typically used in environments in which automated backup is scheduled at set intervals.

You can use the eBACKUP application to back up the files that are configured in the BACKUP table of the configuration database.

Table 8 "eBACKUP sample data" (page 302) shows sample data.

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Table 8
eBACKUP sample data

Site	From path	From file	To path	To file
3	C:\Php	php.ini	C:\Temp\[weekday]\php	php.ini
3	C:\Program Files\Apache group\Apache\conf	httpd.conf	C:\Temp\[weekday]\Program Files\Apache Group\Apache\conf	httpd.conf
3	C:\SOPHO Messenger@Net\Exe	csta.dll	C:\Temp\[weekday]\SOPHO Messenger@Net\Exe	csta.dll
3	C:\SOPHO Messenger@Net\Exe	CSTA_Service.exe	C:\Temp\[weekday]\SOPHO Messenger@Net\Exe	CSTA_Service.exe
3	C:\SOPHO Messenger@Net\Exe	eAPI.exe	C:\Temp\[weekday]\SOPHO Messenger@Net\Exe	eAPI.exe
3	C:\SOPHO Messenger@Net\Exe	eASYNC.exe	C:\Temp\[weekday]\SOPHO Messenger@Net\Exe	eASYNC.exe
3	C:\SOPHO Messenger@Net\Exe	eBACKUP.exe	C:\Temp\[weekday]\SOPHO Messenger@Net\Exe	eBACKUP.exe
3	C:\SOPHO Messenger@Net\Exe	eCAP.exe	C:\Temp\[weekday]\SOPHO Messenger@Net\Exe	eCAP.exe
3	C:\SOPHO Messenger@Net\Exe	eDMSAPI.exe	C:\Temp\[weekday]\SOPHO Messenger@Net\Exe	eDMSAPI.exe
3	C:\SOPHO Messenger@Net\Exe	eGRID.exe	C:\Temp\[weekday]\SOPHO Messenger@Net\Exe	eGRID.exe
3	C:\SOPHO Messenger@Net\Exe	eIO.exe	C:\Temp\[weekday]\SOPHO Messenger@Net\Exe	eIO.exe
3	C:\SOPHO Messenger@Net\Exe	eKERNEL.exe	C:\Temp\[weekday]\SOPHO Messenger@Net\Exe	eKERNEL.exe
3	C:\SOPHO Messenger@Net\Exe	eSMTP.exe	C:\Temp\[weekday]\SOPHO Messenger@Net\Exe	eSMTP.exe
3	C:\SOPHO Messenger@Net\Exe	eSMTP_server.exe	C:\Temp\[weekday]\SOPHO Messenger@Net\Exe	eSMTP_server.exe
3	C:\SOPHO Messenger@Net\Exe	omnithread_rt.dll	C:\Temp\[weekday]\SOPHO Messenger@Net\Exe	omnithread_rt.dll
3	C:\SOPHO Messenger@Net\Mdb	Messenger_CFG.mdb	C:\Temp\[weekday]\SOPHO Messenger@Net\Mdb	Messenger_CFG.mdb
3	C:\SOPHO Messenger@Net\Mdb	Messenger_Data.mdb	C:\Temp\[weekday]\SOPHO Messenger@Net\Mdb	Messenger_Data.mdb

From_path and From_file specify the path and the name of the file that are copied to the To_path and To_file.

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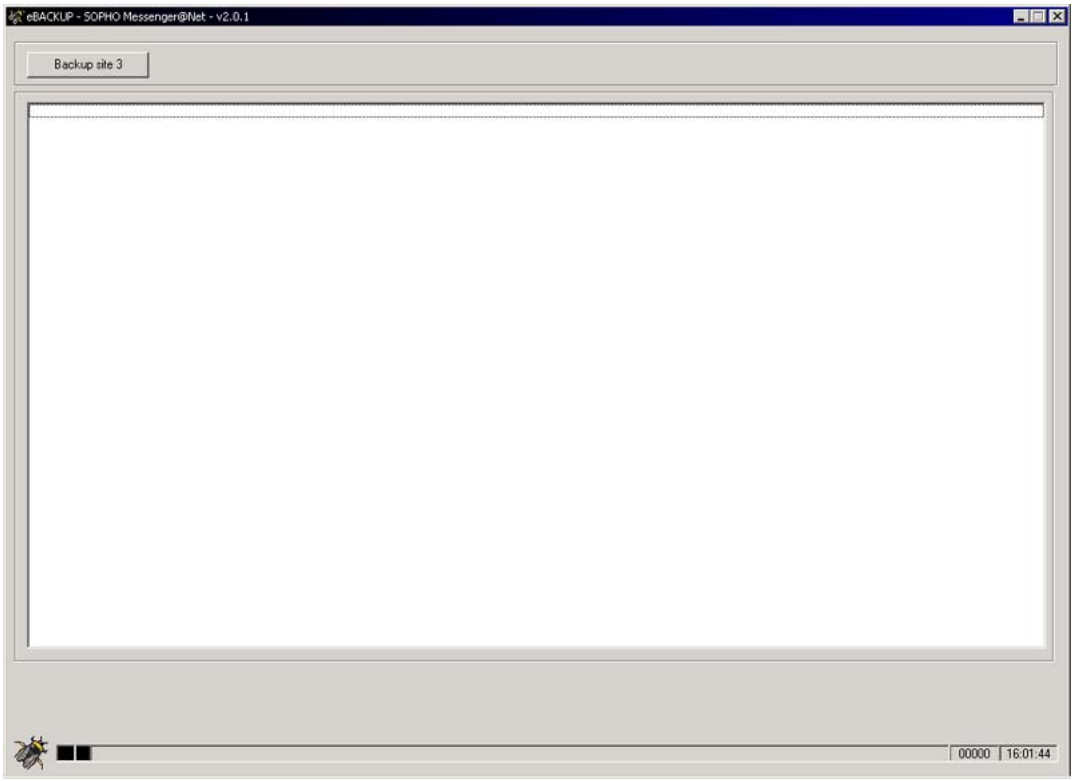
When eBACKUP is started, a blank window with one button is shown, for example, Backup site 3.

Figure 58
Backup start window



Click **Backup** to begin the backup procedure.

When all the files are successfully copied, the window becomes green.

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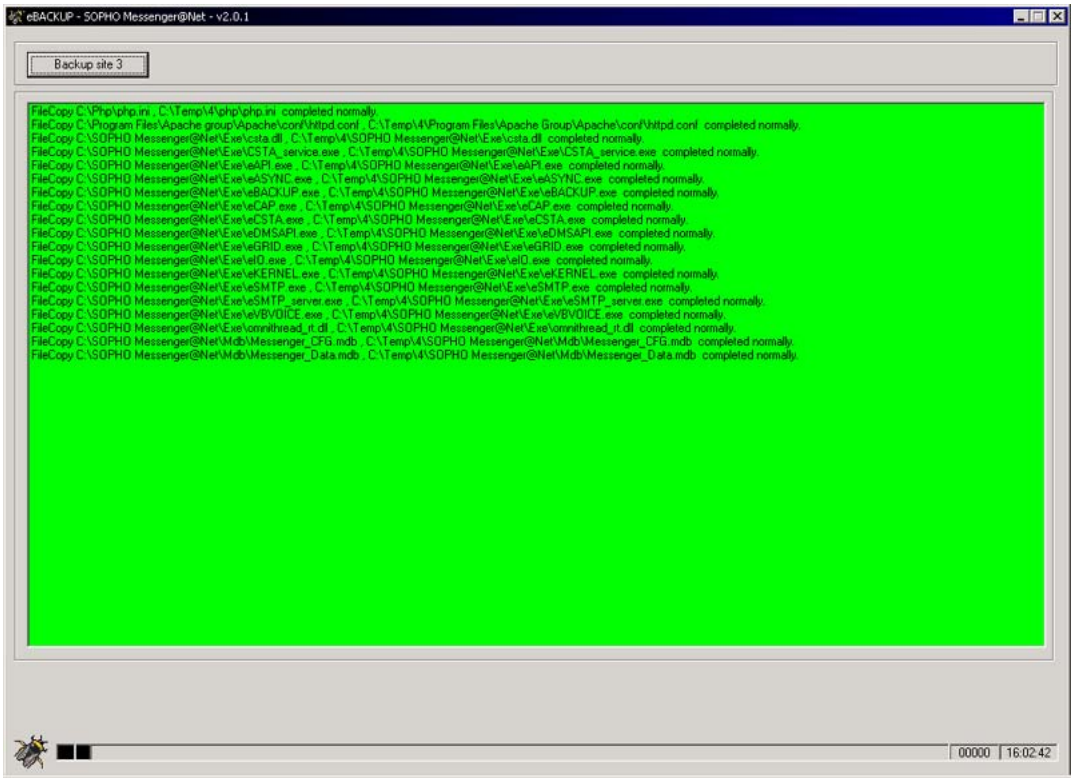
Figure 59
Backup successful


eBACKUP - SOPHO Messenger@Net - v2.0.1
Backup site 3
FileCopy C:\Php\php.ini , C:\Temp\4\php\php.ini completed normally.
FileCopy C:\Program Files\Apache group\Apache\conf\httpd.conf , C:\Temp\4\Program Files\Apache Group\Apache\conf\httpd.conf completed normally.
FileCopy C:\SOPHO Messenger@Net\Exe\csta.dll , C:\Temp\4\SOPHO Messenger@Net\Exe\csta.dll completed normally.
FileCopy C:\SOPHO Messenger@Net\Exe\CSTA_service.exe , C:\Temp\4\SOPHO Messenger@Net\Exe\CSTA_service.exe completed normally.
FileCopy C:\SOPHO Messenger@Net\Exe\eAPI.exe , C:\Temp\4\SOPHO Messenger@Net\Exe\eAPI.exe completed normally.
FileCopy C:\SOPHO Messenger@Net\Exe\eASYNC.exe , C:\Temp\4\SOPHO Messenger@Net\Exe\eASYNC.exe completed normally.
FileCopy C:\SOPHO Messenger@Net\Exe\eBACKUP.exe , C:\Temp\4\SOPHO Messenger@Net\Exe\eBACKUP.exe completed normally.
FileCopy C:\SOPHO Messenger@Net\Exe\eCAP.exe , C:\Temp\4\SOPHO Messenger@Net\Exe\eCAP.exe completed normally.
FileCopy C:\SOPHO Messenger@Net\Exe\eCSTA.exe , C:\Temp\4\SOPHO Messenger@Net\Exe\eCSTA.exe completed normally.
FileCopy C:\SOPHO Messenger@Net\Exe\eDMSAPI.exe , C:\Temp\4\SOPHO Messenger@Net\Exe\eDMSAPI.exe completed normally.
FileCopy C:\SOPHO Messenger@Net\Exe\eGRID.exe , C:\Temp\4\SOPHO Messenger@Net\Exe\eGRID.exe completed normally.
FileCopy C:\SOPHO Messenger@Net\Exe\eIO.exe , C:\Temp\4\SOPHO Messenger@Net\Exe\eIO.exe completed normally.
FileCopy C:\SOPHO Messenger@Net\Exe\eKERNEL.exe , C:\Temp\4\SOPHO Messenger@Net\Exe\eKERNEL.exe completed normally.
FileCopy C:\SOPHO Messenger@Net\Exe\eSMTP.exe , C:\Temp\4\SOPHO Messenger@Net\Exe\eSMTP.exe completed normally.
FileCopy C:\SOPHO Messenger@Net\Exe\eSMTP_server.exe , C:\Temp\4\SOPHO Messenger@Net\Exe\eSMTP_server.exe completed normally.
FileCopy C:\SOPHO Messenger@Net\Exe\eVBVOICE.exe , C:\Temp\4\SOPHO Messenger@Net\Exe\eVBVOICE.exe completed normally.
FileCopy C:\SOPHO Messenger@Net\Exe\omnithread_rt.dll , C:\Temp\4\SOPHO Messenger@Net\Exe\omnithread_rt.dll completed normally.
FileCopy C:\SOPHO Messenger@Net\Mdb\Messenger_CFG.mdb , C:\Temp\4\SOPHO Messenger@Net\Mdb\Messenger_CFG.mdb completed normally.
FileCopy C:\SOPHO Messenger@Net\Mdb\Messenger_Data.mdb , C:\Temp\4\SOPHO Messenger@Net\Mdb\Messenger_Data.mdb completed normally.
00000
16:02:42

If one or more files are not copied, the window becomes red.

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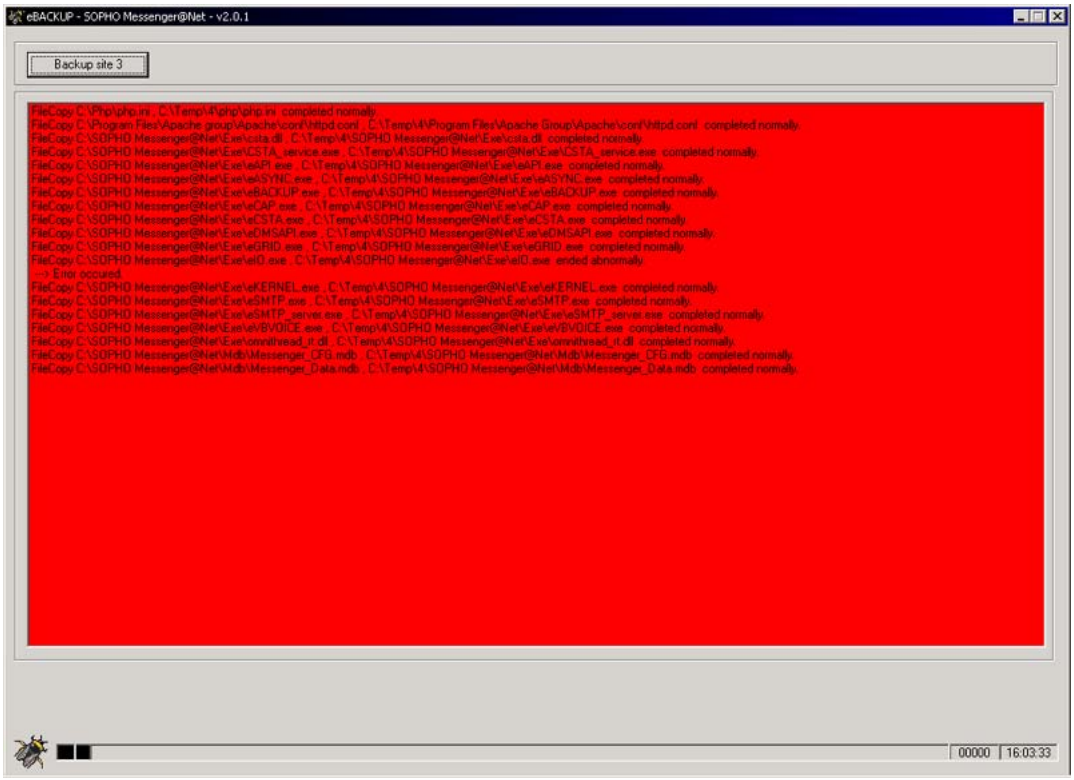
Figure 60
Backup error window


eBACKUP - SOPHO Messenger@Net - v2.0.1
Backup site 3
FileCopy C:\Php\php.ini , C:\Temp\4\php\php.ini completed normally.
FileCopy C:\Program Files\Apache group\Apache\conf\httpd.conf , C:\Temp\4\Program Files\Apache Group\Apache\conf\httpd.conf completed normally.
FileCopy C:\SOPHO Messenger@Net\Exe\csta.dll , C:\Temp\4\SOPHO Messenger@Net\Exe\csta.dll completed normally.
FileCopy C:\SOPHO Messenger@Net\Exe\CSTA_service.exe , C:\Temp\4\SOPHO Messenger@Net\Exe\CSTA_service.exe completed normally.
FileCopy C:\SOPHO Messenger@Net\Exe\eAPI.exe , C:\Temp\4\SOPHO Messenger@Net\Exe\eAPI.exe completed normally.
FileCopy C:\SOPHO Messenger@Net\Exe\eASYNC.exe , C:\Temp\4\SOPHO Messenger@Net\Exe\eASYNC.exe completed normally.
FileCopy C:\SOPHO Messenger@Net\Exe\eBACKUP.exe , C:\Temp\4\SOPHO Messenger@Net\Exe\eBACKUP.exe completed normally.
FileCopy C:\SOPHO Messenger@Net\Exe\eCAP.exe , C:\Temp\4\SOPHO Messenger@Net\Exe\eCAP.exe completed normally.
FileCopy C:\SOPHO Messenger@Net\Exe\eCSTA.exe , C:\Temp\4\SOPHO Messenger@Net\Exe\eCSTA.exe completed normally.
FileCopy C:\SOPHO Messenger@Net\Exe\eDMSAPI.exe , C:\Temp\4\SOPHO Messenger@Net\Exe\eDMSAPI.exe completed normally.
FileCopy C:\SOPHO Messenger@Net\Exe\eGRID.exe , C:\Temp\4\SOPHO Messenger@Net\Exe\eGRID.exe completed normally.
FileCopy C:\SOPHO Messenger@Net\Exe\eIO.exe , C:\Temp\4\SOPHO Messenger@Net\Exe\eIO.exe ended abnormally.
---> Error occured.
FileCopy C:\SOPHO Messenger@Net\Exe\eKERNEL.exe , C:\Temp\4\SOPHO Messenger@Net\Exe\eKERNEL.exe completed normally.
FileCopy C:\SOPHO Messenger@Net\Exe\eSMTP.exe , C:\Temp\4\SOPHO Messenger@Net\Exe\eSMTP.exe completed normally.
FileCopy C:\SOPHO Messenger@Net\Exe\eSMTP_server.exe , C:\Temp\4\SOPHO Messenger@Net\Exe\eSMTP_server.exe completed normally.
FileCopy C:\SOPHO Messenger@Net\Exe\eVBVOICE.exe , C:\Temp\4\SOPHO Messenger@Net\Exe\eVBVOICE.exe completed normally.
FileCopy C:\SOPHO Messenger@Net\Exe\omnithread_rt.dll , C:\Temp\4\SOPHO Messenger@Net\Exe\omnithread_rt.dll completed normally.
FileCopy C:\SOPHO Messenger@Net\Mdb\Messenger_CFG.mdb , C:\Temp\4\SOPHO Messenger@Net\Mdb\Messenger_CFG.mdb completed normally.
FileCopy C:\SOPHO Messenger@Net\Mdb\Messenger_Data.mdb , C:\Temp\4\SOPHO Messenger@Net\Mdb\Messenger_Data.mdb completed normally.
00000
16:03:33

During backup, logging information is written to the hard disk, an example of which is shown in Figure 61 "Sample backup log" (page 306). Note that in the example, the file eIO.exe was not saved.

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Figure 61
Sample backup log

```
25/10/2001 16:06:20 - S:INF:Application eBACKUP - SOPHO Messenger@Net -
v2.0.1 started with parameters /Path:C:\SOPHO Messenger@Net /Log drive:C
/Site:3 /Batch:N
25/10/2001 16:06:22 - S:INF:FileCopy C:\Php\php.ini ,
C:\Temp\4\php\php.ini  completed normally.
25/10/2001 16:06:22 - S:INF:FileCopy C:\Program Files\Apache
group\Apache\conf\httpd.conf , C:\Temp\4\Program Files\Apache
Group\Apache\conf\httpd.conf  completed normally.
25/10/2001 16:06:22 - S:INF:FileCopy C:\SOPHO Messenger@Net\Exe\csta.dll
, C:\Temp\4\SOPHO Messenger@Net\Exe\csta.dll  completed normally.
25/10/2001 16:06:22 - S:INF:FileCopy C:\SOPHO Messen-
ger@Net\Exe\CSTA_service.exe , C:\Temp\4\SOPHO Messen-
ger@Net\Exe\CSTA_service.exe  completed normally.
25/10/2001 16:06:22 - S:INF:FileCopy C:\SOPHO Messenger@Net\Exe\eAPI.exe
, C:\Temp\4\SOPHO Messenger@Net\Exe\eAPI.exe  completed normally.
25/10/2001 16:06:22 - S:INF:FileCopy C:\SOPHO Messen-
ger@Net\Exe\eASYNC.exe , C:\Temp\4\SOPHO Messenger@Net\Exe\eASYNC.exe
completed normally.
25/10/2001 16:06:22 - S:INF:FileCopy C:\SOPHO Messenger@Net\Exe\eBACK-
UP.exe , C:\Temp\4\SOPHO Messenger@Net\Exe\eBACKUP.exe  completed nor-
mally.
25/10/2001 16:06:22 - S:INF:FileCopy C:\SOPHO Messenger@Net\Exe\eCAP.exe
, C:\Temp\4\SOPHO Messenger@Net\Exe\eCAP.exe  completed normally.

25/10/2001 16:06:22 - S:INF:FileCopy C:\SOPHO Messenger@Net\Exe\eDMSA-
PI.exe , C:\Temp\4\SOPHO Messenger@Net\Exe\eDMSAPI.exe  completed nor-
mally.
25/10/2001 16:06:23 - S:INF:FileCopy C:\SOPHO Messen-
ger@Net\Exe\eGRID.exe , C:\Temp\4\SOPHO Messenger@Net\Exe\eGRID.exe
completed normally.
25/10/2001 16:06:23 - S:INF:FileCopy C:\SOPHO Messenger@Net\Exe\eIO.exe
, C:\Temp\4\SOPHO Messenger@Net\Exe\eIO.exe  ended abnormally.
25/10/2001 16:06:23 - S:INF: ---> Error occured.
25/10/2001 16:06:23 - S:INF:FileCopy C:\SOPHO Messenger@Net\Exe\eKER-
NEL.exe , C:\Temp\4\SOPHO Messenger@Net\Exe\eKERNEL.exe  completed nor-
mally.

continued on next page...
```


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```
25/10/2001 16:06:23 - S:INF:FileCopy C:\SOPHO Messenger@Net\Exe\eS-
MTP.exe , C:\Temp\4\SOPHO Messenger@Net\Exe\eSMTP.exe  completed normal-
ly.
25/10/2001 16:06:23 - S:INF:FileCopy C:\SOPHO Messen-
ger@Net\Exe\eSMTP_server.exe , C:\Temp\4\SOPHO Messen-
ger@Net\Exe\eSMTP_server.exe  completed normally.
25/10/2001 16:06:23 - S:INF:FileCopy C:\SOPHO Messen-
ger@Net\Exe\omnithread_rt.dll , C:\Temp\4\SOPHO Messen-
ger@Net\Exe\omnithread_rt.dll  completed normally.
25/10/2001 16:06:23 - S:INF:FileCopy C:\SOPHO Messen-
ger@Net\Mdb\Messenger_CFG.mdb , C:\Temp\4\SOPHO Messen-
ger@Net\Mdb\Messenger_CFG.mdb  completed normally.
25/10/2001 16:06:25 - S:INF:FileCopy C:\SOPHO Messen-
ger@Net\Mdb\Messenger_Data.mdb , C:\Temp\4\SOPHO Messen-
ger@Net\Mdb\Messenger_Data.mdb  completed normally.
25/10/2001 16:06:30 - S:INF:Application ended
```

Nortel recommends that you close all the DECT Messenger applications before starting the backup procedure. In release 2, the file copy procedure is implemented by means of a Windows API-call, as shown with the code excerpt in Figure 62 "File copy example" (page 307):

Figure 62
File copy example

```
:
Declare Function apiCopyFile Lib "kernel32" Alias "CopyFileA" (ByVal
lpExistingFileName As String, ByVal lpNewFileName As String, ByVal bFail-
IfExists As Long) As Long
:
Result = apiCopyFile(SourceFile, DestFile, False)
:
```

ATTENTION
To ensure a complete and consistent image, you must close all applications before backup.The code shown in Figure 62 "File copy example" (page 307) can back up files, even if they are open. Therefore, you can initiate the eBACKUP while, for instance, eKERNEL is active and the Messenger_CFG.mdb database is open. Although you can use the eBACKUP to save the open files, Nortel does not guarantee that the copied file is a complete image or a consistent database image. During activity of eKERNEL, parts of the Access 2000 database are sometimes in use and transactions are pending. Saving open files is not officially supported.

For more information, visit the Microsoft web site at: http://support.microsoft.com/support/kb/articles/Q207/7/03.asp

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Module - eCAP

The module eCAP consists of the program eCAP.exe, written in Visual Basic. In general, DECT Messenger programs reside in the default directory C:\SOPHO Messenger@Net\Exe, unless otherwise implemented in your environment.

Overview

eCAP.exe

The eCAP.exe is a Visual Basic component of the eCAP module. The program communicates with two processes: the eKERNEL.exe and an external alarm interface. The eKERNEL.exe is the central engine that centralizes all database access and communication with input and output capable modules.

The eCAP.exe communicates with eKERNEL.exe by means of TCP sockets. In this communication, eCAP.exe is a TCP client software that connects to the eKERNEL component, acting as TCP server software.

At startup, eCAP.exe contacts the eKERNEL.exe by means of a socket connection. Startup parameters identify eCAP.exe, and locate the eKERNEL.exe program. These parameters are set in the Properties section of the shortcut that initiates eCAP.exe. This shortcut is usually located in the Windows Startup group (click **Start** on the Windows toolbar, and choose **Programs > Startup**).

Figure 63
Typical parameters in the shortcut

```
"C:\SOPHO Messenger@Net\Exe\eCAP.exe"
/Site:1
/eKernel address:*LOCAL
/eKernel port:3102
/Log drive:C
```

In the example shown in Figure 63 "Typical parameters in the shortcut" (page 309), the eCAP.exe identifies itself as belonging to site 1, and specifies the location of eKERNEL through IP address *LOCAL and port

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3102. The special value *LOCAL refers to the assigned IP address of the first NIC adapter found in the PC. You can determine the IP address using the IPCONFIG.exe command or in the appropriate sections of the Windows network settings. The keyword Log drive refers to the drive where the logging data must be stored. Usually this is C:\SOPHO Messenger@Net\Log\.

At startup, the eCAP.exe sends an XML string to eKERNEL.exe requesting a configuration. This step is needed for each module that interacts with eKERNEL.exe, because this approach allows central administration using a single database, even if some client modules are located on a distributed machine.

Figure 64
A typical cfgrqs configuration request and its received cfgrpy configuration reply

```
<xml>
<cfgrqs>
<appl>eCAP</appl>
<site>1</site>
</cfgrqs>
</xml>
```

```
<xml>
<cfgrpy>
<manufacturer>ELDAD</manufacturer>
<model>L:48-0:RC-1:SR-2:SS-3:SS-4:SR </model>
<bidir>N</bidir>
<link_type>RS232</link_type>
<resource>COM01</resource>
<settings>9600,N,8,1</settings>
<descr>Eldad DP6000</descr>
<log_path>c:\SOPHO Messenger@net</log_path>
<log_days>30</log_days>
</cfgrpy></xml>
```

Note: The generic eCAP configuration sends extra keywords and values, as defined in the eCAP_generic table.

Refer to the chapters of this document that describe the database tables for more information on each value. Detailed descriptions of these internal inter-process communications is beyond the scope of this chapter.

When the configuration is received, the **Connection** tab displays information similar to what is pictured in Figure 65 "eCAP Connection tab" (page 311).

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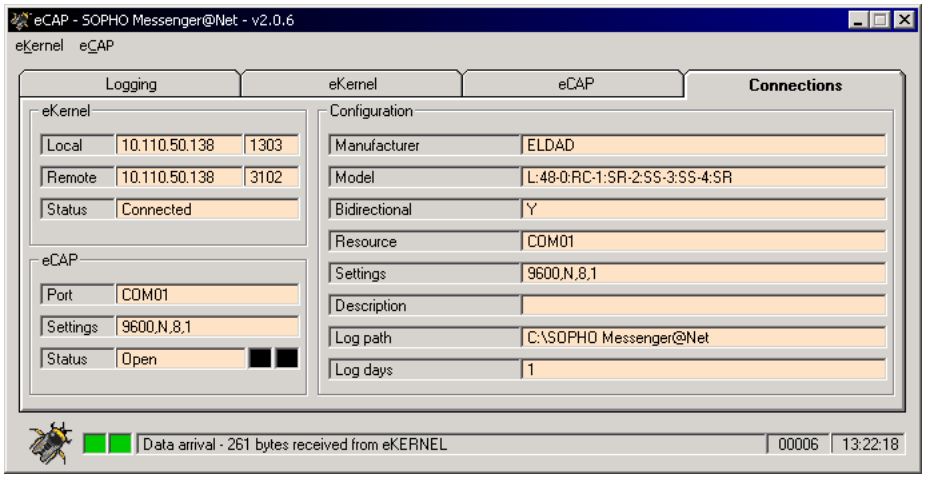
Figure 65
eCAP Connection tab



Because the eCAP is designed to handle asynchronous serial communications with a number of alarm systems, the eCAP requires configuration settings to start processing. These values are returned through the <cfgrpy> reply that is sent on return of the <cfgrqs> request. Some parameters refer to asynchronous communication settings (for example, port number, baud rate, data bits, parity bits, stop bits, and so on); others refer to general information settings (for example, logging parameters); the rest are parameters that actually determine the alarm system (for example, manufacturer, model, bidirectional, and so on).

> ***Note:*** The values shown in Figure 65 "eCAP Connection tab" (page 311) are received from the DECT Messenger database: from the eKERNEL_INPGM table, eCAP_generic table, and the eKERNEL_SITE table.

At startup, the eCAP.exe appears the specified COM port with the specified settings. The COM port specified must be available, be set to use a valid baud rate, and so on. A physical connection must exist between the specified COM port and the external alarm system through a properly wired serial cable. In many cases, alarm systems support a limited number of control signals (for example, ground and send), so consult the alarm system vendor on cable specifications. In most cases, you can use a standard null-modem cable. If no more COM ports are available, extra hardware (such as DigiBoard PC/4e or DigiBoard PC/8e) is needed to provide extra serial ports. Check compatibility issues (supported by operating system, driver available, and so on) and hardware requirements (memory, available slots, IRQ conflicts, and so on) before ordering or configuring a system.

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In many cases the distance between the DECT Messenger and the external-alarm system is relatively small, so no extra hardware is needed. In some conditions hardware is needed, such as, when RS-232-C limitations apply (for example, at 9600 baud maximum limit of 9 metres). In some cases galvanic isolation is requested, or base-band modems, SOPHO LAM, CISCO equipment, and so on are needed to bridge the distance between the DECT Messenger and the alarm system.

Once a link is established between eCAP and the alarm system, the eCAP handles further communications and informs eKERNEL when relevant information is to be exchanged.

Functional description

In general, eCAP is designed to provide eKERNEL with alarm information. This is carried out using a <msgrqs> message request. For some interfaces eKERNEL must send feedback to the alarm system, a process that is handled through <msgrpy> message reply request.

ATTENTION
The eCAP module is compatible with a number of alarm system installations. However, many of the supported vendors offer a broad variety of hardware and software environments, all of which are not necessarily compatible with eCAP. For example, the fact that one NIRA serial protocol is implemented does not mean that every version of serial input from NIRA is compatible.Ensure that a specific alarm-system model is supported by DECT Messenger before purchasing or installing it. In most cases manufacturers are not using the same standard for all of their equipment, so obtain information on protocols and specifications. Nortel recommends pre-sales consultation. If necessary, a modification of the current release of eCAP can be made to embed new protocols.

The most typical protocols are listed in Table 9 "Supported manufacturer/model protocols" (page 312) and described in more detail in the pages following the table. Refer to the protocol specifications of each vendor for more information, as detailed protocol issues are beyond the scope of this document. The information in Table 9 "Supported manufacturer/model protocols" (page 312) provides a list of supported manufacturers and models. This information is provided on an as-is basis, to illustrate the eCAP module.

Table 9
Supported manufacturer/model protocols

Manufacturer	Model
ARGINA	*BASE
ARITECH	*BASE
ARITECH	1

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Table 9
Supported manufacturer/model protocols (cont'd.)

Manufacturer	Model
BEMAC	DIANA 1
BEMAC	DIANA 2
ELDAD	L:48-0:RC-1:SR-2:SS-3:SS-4:SR
GENERIC	*BASE
GENT	3400
GENT	VIGILON EN54
M-TECH	ESPRESSO
NIRA	*BASE
TELEVIC	PROTOCOL CONVERTOR – L:03
TYCO	MINERVA 80
VSK	DE LICHTERVELDE
VSK	OLV VAN VREDE
VSK	ST-JOZEF
WORMALD	*BASE
WORMALD	L:01
WORMALD	G:EIPM

ARGINA

The valid manufacturer is ARITECH and the valid model is *BASE.

Argina *BASE is based upon installation Maas en Kempen-Campus Bree.

Table 10
Sample ARGINA protocol data

#BAL, Z002,D003,00000,00000,00000,Inkomhal

Argina alarms are always sent to group ARGINA, since no pager information is available in the data-stream.

Messages are sent with an alarm description based upon the first part before the comma. The # character is omitted. This means #BAL results in an alarm description BAL. The message is based upon the sixth element, for example, Inkomhal, omitting the leading and trailing spaces. Alarms are sent with the option: remove after *sent.

ARITECH

The valid manufacturer is ARITECH and the valid model is *BASE and 1.

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Aritech *BASE is based upon the installation Floreal Nieuwpoort.

Figure 66
Sample Aritech protocol data

```
19980218 08:49:41 ----------------------------------------
19980218 08:49:41 Fout     :1      Gebeu. :1258 Aktief
19980218 08:49:41 Poort    :SER1   Printer afgekoppeld
19980218 08:49:41                  18/02/98  08:19:31 P:1
19980218 08:49:41 ----------------------------------------
19980218 08:49:41 Actie    :4      Gebeu. :1259 Gelogd
19980218 08:49:41                  Stop Zoemer
19980218 08:49:41                  18/02/98  08:19:35 P:1
19980218 08:49:42 ----------------------------------------
19980218 08:49:42 Fout     :2      Gebeu. :1260 Gelogd
19980218 08:49:42                  Deur contact
19980218 08:49:43                  18/02/98  08:19:47 P:1
19980218 08:49:43 ----------------------------------------
19980218 08:49:43 Actie    :5      Gebeu. :1261 Gelogd
19980218 08:49:43                  Stop Zoemer
19980218 08:49:43                  18/02/98  08:19:48 P:1
19980218 08:49:43 ----------------------------------------
19980218 08:49:43 Actie    :6      Gebeu. :1262 Gelogd
19980218 08:49:43                  Deurcontact gesloten
19980218 08:49:43                  18/02/98  08:21:09 P:1
19980218 08:49:43 ----------------------------------------
19980218 08:49:43 Fout     :2      Gebeu. :1263 Gelogd
19980218 08:49:43                  Deur contact
19980218 08:49:43                  18/02/98  08:21:11 P:1
19980218 08:49:43 ----------------------------------------
19980218 08:49:43 Actie    :7      Gebeu. :1264 Gelogd
19980218 08:49:43                  HERSTEL
19980218 08:49:43                  18/02/98  08:22:35 P:1
19980218 14:28:29 ----------------------------------------
19980218 14:28:29 Alarm    :1      Gebeu. :1509 Aktief
19980218 14:28:30 Zone     :2      Gebied :0
19980218 14:28:30 Adres    :3/4    Brand
19980218 14:28:30 DKKV             18/02/98  14:24:05 P:1
19980218 14:28:30 C TELEFOONCENTRALE
19980218 14:28:46 ----------------------------------------
19980218 14:28:46 Actie    :3      Gebeu. :1510 Gelogd
19980218 14:28:46                  Stop Zoemer
19980218 14:28:46                  18/02/98  14:24:23 P:1
```

Aritech alarms are always sent to group ARITECH, because no pager information is available in the datastream. Messages are sent with alarm description ARITECH. An alarm is set only when Gebeur occurs in the

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datastream. When BRAND occurs the message is BRAND; in other cases the message is ARITECH. When HERSTEL occurs a general reset of all ARITECH alarms is issued.

Note: Use of this protocol usually requires consulting services and customizing.

Figure 67
ARITECH Model 1 alarm (based upon installation RUCA)

```
' ================================================================
' SCENARIO 1 : Brand
' actie *SET
' message "T112 det"
' groep "ARITECH_B"
' alarm description "ARITECH_B"
' ----------------------------------------------------------------
' Alarm :1 Gebeu. :2109 Aktief
' Zone :42 Geb. :0
' Adres :3/1 Brand
' OPT 04/07/05 10:19:03 P:6
' T122 det
' ================================================================
' ================================================================
' SCENARIO 2 : Fout
' actie *SET
' message "Printer afgekoppeld G:1"
' groep "ARITECH_F"
' alarm description "ARITECH_F"
' ----------------------------------------------------------------
' Fout :1 Gebeu. :661 Aktief
' Poort :SER2 Printer afgekoppeld
' 04/07/05 10:08:39 G:1
' ================================================================
' ================================================================
' SCENARIO 3 : Fout - communicatie fout
' actie *SET
' message "T122 det P6"
' groep "ARITECH_C"
' alarm description "ARITECH_C"
' ----------------------------------------------------------------
' Fout :1 Gebeu. :2106 Aktief
' Zone :42 Geb. :0
' Adres :3/1 Communicatie fout
' OPT 04/07/05 09:59:54 P:6
' T122 det
' ================================================================
' ================================================================
' SCENARIO 4 : Herstel
' "*RESET" naar alle input
' ----------------------------------------------------------------
' Actie :1 Gebeu
' Herstel
' 04/07/05 10:30:19 P:8
' ================================================================
```

Aritech model 1 alarms are always sent to group ARITECH_F, ARITECH_C, or ARITECH_B, depending on the datastream.

Messages are sent with alarm description ARITECH_F, ARITECH_C, or ARITECH_B, depending on the datastream.

Alarms are *SET with option *CALC.

To define alarms, remove after *RESET.

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When HERSTEL occurs a general reset of all ARITECH alarms is issued for *ALL groups and *ALL alarm descriptions.

Note: This protocol usually requires project-based consulting services and customizing.

BEMAC

Valid manufacturer is BEMAC, valid model is DIANA 1 and DIANA 2.

Bemac is based upon installation Clinique St-Vincent Rocourt.

Figure 68
Sample Bemac protocol data

```
20000913 15:07:09 I:<866/LOC 101B/0>
20000913 15:09:09 I:<861/LOC 222B/0>
20000913 15:09:31 I:<861/LOC 333B/0>
20000913 15:10:47 I:<861/LOC 444B/0>
20000913 15:11:34 I:<999/RESET/0>
20000913 15:12:04 I:<999/RESET/0>
20000913 15:12:39 I:<999/RESET/0>
```

Bemac alarms contain three fields, a pager number, a message and a tone code. Alarms are sent with group equal to the first parameter (for example, 866). The message is retrieved from the second parameter (for example, LOC 101B). When the third parameter is 0 the message is reset. When the message is RESET all messages for all groups are reset; in other cases only the specific message for the specified group is reset. When the third parameter is a value other than 0, the message is set. During set the alarm description is BEMAC_x, where x is the specified tone code (for example, tone code 3 sets message with alarm description BEMAC_3.

ELDAD

Valid manufacturer is ELDAD, valid model is specified through a special syntax, for example, L:48-0:RC-1:SR-2:SS-3:SS-4SR. Note that the model is built upon components having syntax A:BB and separated with a hyphen (-).

- L:xx denotes that the length of an alpha-message is xx bytes. For example, L:48 means that alpha-messages are 48 bytes long, L:24 denotes alpha-messages are 24 bytes long.
- 0:xx specifies behavior of tone code 0, 1:xx specified behavior of tone code 1, 2:xx specifies behavior of tone code 2, and so on.

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For each tone code, the syntax ends on two characters. The first character can be S or R. S denotes set of alarm, R denotes reset of alarm. The second character can be S or R or C. The value S refers to remove after *SENT, the value R refers to remove after *RESET, the C refers to remove after *CALC.

For example, L:48-0:RC-1:SR-2:SS-3:SS-4SR means the alpha-messages are 48 bytes long, tone code 0 denotes *RESET alarm remove after *CALC, tone code 1 and 4 denote *SET alarm remove after *RESET, and tone code 2 and 3 denote *SET alarm remove after *SENT.

Bemac is based upon installation Sint-Franciskus-Ziekenhuis Heusden-Zolder.

The syntax is

'STX' + XXXXTZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZYYYYYP + 'LF' + 'CR'

where

XXXX = pager number
T = Tone-code
ZZ.. = Alpha-message (usually 24 or 48 bytes)
YYYYY = 5-digit information (= message if ZZ.. are all ...)
P = present flag

Figure 69
Sample Eldad protocol data

```
20000419 00:00:45 I:_01241NUR A203                00000P
20000419 00:00:45 O: _(ACK)
20000419 00:01:35 I:_01640NUR A203                00000P
20000419 00:01:35 O: _(ACK)
20000419 00:03:38 I:_01244ASS A203                00000P
20000419 00:03:38 O: _(ACK)
20000419 00:03:50 I:_01244ASS A203                00000P
20000419 00:03:50 O: _(ACK)
20000419 00:07:09 I:_01142TECHNISCH               00000P
20000419 00:07:09 O: _(ACK)
20000419 00:11:41 I:_01643BRAND                   00000P
20000419 00:11:41 O: _(ACK)
```

Eldad messages are either *SET or *RESET based upon tone code and model configuration. The group is located from the datastream (4-byte pager number). The message is retrieved from the alpha-message, but if the alpha-message is a string of period (.) characters then 5-byte digit information is used instead. The alarm description is the tone code (for example, 1 or 2 or 3 and so on).

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GENT

The valid manufacturer is GENT and the valid model is 3400 and VIGILON EN54.

Model 3400

The GENT model 3400 transmits binary datastreams of 56 bytes. The first bytes identify the alarm type. Currently, only Fire and Super Fire are processed.

Figure 70
GENT Model 3400

```
' ------------------------------------------------------
' Byte 0 and 1 - Event code
' ------------------------------------------------------
' MSB LSB Event description
' 0 1 Fire reset
' 0 2 All faults cleared
' 0 3 All disablements cleared
' 0 4 Alarms silenced
' 0 5 Alarms sounded
' 2 1 Supervisory on
' 2 2 Supervisory off
' 4 X Fault - System
' 5 X Fault - Outstanding/Loop
' 7 X Disablement
' 9 X Fire
' 10 X Super Fire
' ------------------------------------------------------
' Byte 25-56 - Outstanding/Zole/Supervisory/Panel label
' ------------------------------------------------------
```

The message is retrieved from bytes 25 to 56. The group is always FIRE and the alarm description is always FIRE. Alarms are *SET with the option: remove after *sent.

Model VIGILIN EN54

Figure 71
Sample Model VIGILIN EN54

```
Time:14:38.35 Thu 29 June 2006
Call Point Operated
MCP;FAP 1 BLOCK 2 LOWER GROUND FLOOR Z
Number 149 on Loop 1
Sector 1 Group 1 Zone 1
---------------------------------------
Time:14:38.35 Thu 29 June 2006
Call Point Operated
MCP;FAP 1 BLOCK 2 LOWER GROUND FLOOR Z
Number 149 on Loop 1
Sector 1 Group 1 Zone 1
---------------------------------------
Time:14:38.35 Thu 29 June 2006
Call Point Operated
MCP;FAP 1 BLOCK 2 LOWER GROUND FLOOR Z
Number 149 on Loop 1
Sector 1 Group 1 Zone 1
---------------------------------------
Time:14:38.35 Thu 29 June 2006
Call Point Operated
FIRE;FAP 1 BLOCK 2 LOWER GROUND FLOOR Z
Number 149 on Loop 1
Sector 1 Group 1 Zone 1
---------------------------------------
```

Currently, only records starting in 3rd line MCP or FIRE are processed.

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For FIRE alarms, the group is FIRE and the alarm description is FIRE. Messages are sent with the option: remove after *sent.

For MCP alarms, the group is MCP and the alarm description is MCP. Messages are sent with the option: remove after *sent.

The message is retrieved from the remaining part of the line after FIRE or MCP. For example, FIRE;FAP 1 BLOCK 2 LOWER GROUND FLOOR Z returns the message FAP 1 BLOCK 2 LOWER GROUND FLOOR Z.

M-TECH

The valid manufacturer is M-TECH and the valid model is ESPRESSO.

Table 11
Sample M-TECH data

<00001/This is a sample message>

The first field starts between < and /, in the example 00001.

The second field starts between / and > in the sample M-TECH data message.

The group is identified by the first fields, for example, 00001, and the message is identified by the second field (This is a sample message). Currently, alarms are sent with alarm description P0 and sent with option Remove after *sent.

NIRA

The valid manufacturer is NIRA and the valid model is *BASE.

Nira is based upon installation Eeuwfeestkliniek Antwerpen.

Figure 72
Sample NIRA protocol data

```
20010110 00:00:02 I: 22:37 | 0781 | 10 | | 6 | | - | 416-C
20010110 00:00:12 I: 22:37 | 0784 | 10 | | 6 | | - | 419-C
20010110 00:00:12 I: Tuesday
9-JANUARY-2001
20010110 00:00:12 I:
20010110 00:00:12 I: TIME ADDR. LINK S/P CODE CALL-INFO ID MESSAGE
20010110 00:00:12 I:-------+------+----+---+----+---------+-----+-------
------
----------------------
20010110 00:00:12 I: 22:37 | 0777 | 08 | | 5 | | - | 336-C----A
20010110 00:00:33 I: 22:38 | 0777 | 08 | | 5 | | - | 336-C----A
20010110 00:00:33 I: 22:38 | 0781 | 10 | | 6 | | - | 416-C
20010110 02:02:17 I: 00:39 | 0777 | 08 | | 5 | | - | 336-C----A
20010110 02:02:18 I: 00:39 | 0784 | 10 | | 7 | | - | 520-A
20010110 02:02:38 I: 00:40 | 0777 | 08 | | 5 | | - | 336-C----A
20010110 02:02:59 I: 00:40 | 0777 | 08 | | 5 | | - | 336-C----A
```


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Alarms are always *SET, and repeat mechanisms are configured to indicate if an alarm is no longer active (logical *RESET is based upon no longer repeating). For this reason, Nortel recommends that the alarm repeat interval be specified, for example, to 30 seconds.

The room number is retrieved from the data-stream and is used as a group, for example, 416, 419, 336, and so on. The message is 4-bytes long and consists of the room number, followed by either a C or an A indication. Datastreams in the format XXX-C and XXX----A are considered as C and datastreams in the format XXX-A and XXX---AA and XXX—AAA are considered A type alarms.

Message text is 416C or 520A. The alarm description is NIRA_C for messages that end with C and NIRA_A for alarms that end with A. All messages are removed after *SENT.

Note: This protocol typically requires project-based consulting services and modifications.

STEAFA

Note: The Landis-Steafa interface was not ordered nor implemented and protocol information is provided on an as-is basis. Contact your software vendor for implementation.

Figure 73
Sample Steafa protocol data

```
19970403000053 COM    03/04/97  Prio 1 CONTROLLER 00   SYSTEM STAEFA
test alarm
19970403000054 COM    00:05:00      COM. NICO-RS MODU(U)L(EN) NORMAAL
UIT
19970403000054 COM                                                  00
COS   2000
19970403000154 COM ____
19970403000154 COM    03/04/97  Prio 1 CONTROLLER 00   SYSTEM STAEFA
test alarm
19970403000154 COM      00:06:01          GEEN COMMUNICATIE NICO-RS
MODU(U)L(EN)   IN
19970403000154 COM                                                  00
COS   2000
19970403000252 COM ____
19970403000253 COM    03/04/97  Prio 1 CONTROLLER 00   SYSTEM STAEFA
test alarm
19970403000253 COM    00:07:00      COM. NICO-RS MODU(U)L(EN) NORMAAL
UIT
19970403000253 COM                                                  00
COS   2000
19970403000354 COM ____
```


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TELEVIC

The valid manufacturer is TELEVIC and the valid model is PROTOCOL CONVERTOR–L:xx, with xx between 01 and 99.

Note: The extension – L:xx is new in release 2, and must be specified. The functionality is introduced to obtain more flexibility in message handling. The following string handling is performed:

- Remove leading spaces of the message

  NUR K100 -> NUR K100

- Append a trailing space to the result

  BEERPUT -> BEERPUT

- Look up the occurrence of the first space character

  NUR K100 -> 4

  BEERPUT -> 8

- Keep the leading non-blank characters

  NUR K100 and 4 -> NUR

  BEERPUT and 8 -> BEERPUT

- Keep the leading characters only, with length specified in L:xx

  NUR and L:03 -> NUR

  BEERPUT and L:03 -> BEE

Table 12
Televic Example

Length	Original message	Resulting alarm type	Length
L:01	NUR K100	N	1
	WC 120	W	1
	BEERPUT	B	1
L:02	NUR K100	NU	2
	WC 120	WC	2
	BEERPUT	BE	2
L:03	NUR K100	NUR	3
	WC 120	WC	2
	BEERPUT	BEE	3
L:04	NUR K100	NUR	3
	WC 120	WC	2
	BEERPUT	BEER	4

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Table 12
Televic Example (cont'd.)

Length	Original message	Resulting alarm type	Length
L:05	NUR K100	NUR	3
	WC 120	WC	2
	BEERPUT	BEERP	5

Refer to the official specifications on Televic Protocol Convertor. You can obtain these specifications from the manufacturer, or through Nortel sales support. Detailed information is beyond the scope of this document.

Televic is based upon installation CAZK campus Groeninghe Kortrijk.

Figure 74
Sample Televic protocol data

```
07/01/2001 00:02:15 - I:COM:_O0103224210          8POORT100Y4C_
07/01/2001 00:02:15 - O:COM:_A0103Y1A_
07/01/2001 00:02:22 - O:COM:_T010312421052_
07/01/2001 00:02:23 - I:COM:_A0103Y1A_
07/01/2001 00:02:24 - O:COM:_T010312421052_
07/01/2001 00:02:25 - I:COM:_A0103Y1A_
07/01/2001 00:11:17 - I:COM:_O0104225091          1NUR PALIY52_
07/01/2001 00:11:17 - O:COM:_A0104Y1D_
07/01/2001 00:11:23 - O:COM:_T01041250915F_
07/01/2001 00:11:24 - I:COM:_A0104Y1D_
07/01/2001 00:11:25 - O:COM:_T01041250915F_
07/01/2001 00:11:26 - I:COM:_A0104Y1D_
07/01/2001 00:16:39 - I:COM:_O0105225091          1NUR PALIY53_
07/01/2001 00:16:39 - O:COM:_A0105Y1C_
```

Televic is an extended two-direction protocol, which provides a number of protocol rules to keep the communication secure; for example, through sequencing each packet, requesting acknowledge string, handshake through clear-string, return of feedback on message delivery through what is called terugmelding string, error detection through checksum, and so on. Refer to the protocol specifications for details on Televic protocol.

Regarding configuration, the following details are important:

The datastream contains a pager indication. This pager indication is used as a group indication.

Alarms can either be sent as type 1 (*SET of an alarm that has a *RESET type 0), type 0 (*RESET of an alarm that was previously *SET through code 1) and finally a type 2 (*SET of an alarm that does receive a *RESET). As a result, messages can be *SET or *RESET with remove after *SENT or remove after *RESET.

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The DECT Messenger implements three distinct alarm descriptions.

1. The highest priority is assigned to alarm types that are configured through the specified length L:xx of the alarm text (For example, L:03 : NUR, ASS, SAN, REA, MUG, and so on). If this definition is found, the alarm attributes are fetched there.
2. When the first definition is unavailable, alarm types are fetched equal to the tone code (0, 1, 2, 3, 4, 5, 6, 7, 8, 9). If this definition is found, the alarm attributes are fetched there.
3. As the last option, the alarm types are fetched through *OTHER special value. If this definition is found, alarm attributes are fetched there. In absence of any of the three definitions, the alarms are ignored.

The alarm message is retrieved from the datastream (NUR PAL, POORT 100, and so on).

TYCO

The valid manufacture is TYCO and the valid model is MINERVA 80.

Figure 75
Sample MINERVA 80 protocol data

```
   FIRE     EVACUATE    GROUND FLOOR           12:13:14 22 Nov 05
                        BGU.FRONT HALL EAST    Zn 0110  F   63
  CLEAR                 GROUND FLOOR           12:13:24 22 Nov 05
                        BGU.FRONT HALL EAST    Zn 0110  F   63
  SYSTEM    SILENCE     Fire System Zone       12:13:54 22 Nov 05
                        Silence                Zn 0300 LB00 S02
  SYSTEM     RESET                             12:13:56 22 Nov 05
                        Non Addressable Pnt.   Panl 01 MP
  SYSTEM     RESET      All Zones              12:13:56 22 Nov 05
                        Unknown                Panl 03 MP
ISOLATE STATUS  ON      System Zone            12:13:58 22 Nov 05
                        Non Addressable Pnt.   Zn 0100
PALM BEAMS ISOLATED                            12:13:58 22 Nov 05
                        Non Addressable Pnt.   Panl 01 MP   R02
 PRINTER     OFFLINE    System Zone            12:13:58 22 Nov 05
                        Non Addressable Pnt.   Zn 0400 LB00 R04
   FIRE      ALARM      GROUND FLOOR           12:16:20 22 Nov 05
                        SD.SAFE DEPOSIT ROOM   Zn 0110  F   7
  SYSTEM    SILENCE     Fire System Zone       12:16:30 22 Nov 05
                        Silence                Zn 0300 LB00 S02
  SYSTEM     RESET                             12:16:38 22 Nov 05
                        Non Addressable Pnt.   Panl 01 MP
  SYSTEM     RESET      Remote Panel Zone      12:16:38 22 Nov 05
                        Remote Panel Point     Panl 03 MP
ISOLATE STATUS  ON      System Zone            12:16:40 22 Nov 05
                        Non Addressable Pnt.   Zn 0100
PALM BEAMS ISOLATED                            12:16:40 22 Nov 05
                        Non Addressable Pnt.   Panl 01 MP   R02
 PRINTER     OFFLINE    System Zone            12:16:44 22 Nov 05
                        Non Addressable Pnt.   Zn 0400 LB00 R04
```

```
   FIRE     EVACUATE    GROUND FLOOR           12:13:14 22 Nov 05
                        BGU.FRONT HALL EAST    Zn 0110  F   63
```


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An alarm is sent to the group MINERVA and the alarm description FIRE_EVACUATE, as well as a remove after *SENT and message BGU.FRONT HALL EAST. The group is always MINERVA and the alarm description comes from the first line when _ symbol appears. The message is retrieved from the second line, for example, BGU.FRONT HALL EAST.

VSK

Valid manufacturer is VSK.

Valid models are:

- DE LICHTERVELDE
- OLV VAN VREDE
- ST-JOZEF

VSK is based upon the three installations defined in the model, with a different implementation for each, as illustrated in Figure 76 "Sample DE LICHTERVELDE protocol data" (page 325), Figure 77 "Sample OLV VAN VREDE protocol data" (page 326), and Figure 78 "Sample ST-JOZEF protocol data" (page 327).

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Figure 76
Sample DE LICHTERVELDE protocol data

```
19990329 11:58:29 R:----------------------
19990329 11:58:29 R:D:HOOFDBORD+CENTR.L707
19990329 11:58:29 R:Z:043 D:0945
19990329 11:58:29 R:29-03-99 11:59 DET.FOUT
19990329 11:59:47 R:----------------------
19990329 11:59:47 R:S:GENERAL RESET
19990329 11:59:47 R:S:9130
19990329 11:59:47 R:29-03-99 12:00 SYS.FOUT
19990329 12:08:27 R:----------------------
19990329 12:08:27 R:S:GENERAL RESET
19990329 12:08:27 R:S:9130
19990329 12:08:27 R:29-03-99 12:09 SYS.FOUT
19990329 12:08:34 R:----------------------
19990329 12:08:34 R:S:GEEN PAPIER MEER !
19990329 12:08:34 R:S:9098
19990329 12:08:34 R:29-03-99 12:09 SYS.FOUT
19990329 12:08:59 R:----------------------
19990329 12:08:59 R:S:BUZZER RESET
19990329 12:08:59 R:S:9131
19990329 12:08:59 R:29-03-99 12:09 SYS.FOUT
19990329 12:21:06 R:----------------------
19990329 12:21:06 R:D:GANG            G710
19990329 12:21:06 R:Z:043 D:0931
19990329 12:21:06 R:29-03-99 12:21 DET.FOUT
19990329 12:21:35 R:----------------------
```


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Figure 77
Sample OLV VAN VREDE protocol data

```
19981117 00:14:30 R:S:GENERAL RESET
19981117 00:14:30 R:S:9130
19981117 00:14:30 R:17-11-98 00:11 SYS.FOUT
19981117 00:14:53 R:-----------------------
19981117 00:14:53 R:D:BEZOEKZAAL       303
19981117 00:14:53 R:Z:003 D:0193
19981117 00:14:53 R:17-11-98 00:11 DET.FOUT
19981117 00:16:03 R:-----------------------
19981117 00:16:03 R:D:BEZOEKZAAL       303
19981117 00:16:03 R:Z:003 D:0193
19981117 00:16:03 R:17-11-98 00:13 DET.FOUT
19981117 00:21:41 R:-----------------------
19981117 00:21:41 R:S:BUZZER RESET
19981117 00:21:41 R:S:9131
19981117 00:21:41 R:17-11-98 00:18 SYS.FOUT
19981117 05:47:14 R:-----------------------
19981117 05:47:14 R:S:NACHTBEL       POORT
19981117 05:47:14 R:S:9176      GP01
19981117 05:47:14 R:17-11-98 05:44 SYS.FOUT
19981117 05:47:51 R:-----------------------
19981117 05:47:51 R:S:BUZZER RESET
19981117 05:47:51 R:S:9131
19981117 05:47:51 R:17-11-98 05:44 SYS.FOUT
19981117 06:32:10 R:-----------------------
19981117 06:32:10 R:S:NACHTBEL       POORT
19981117 06:32:10 R:S:9176      GP01
19981117 06:32:10 R:17-11-98 06:29 SYS.FOUT
19981117 06:40:25 R:-----------------------
```


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Figure 78
Sample ST-JOZEF protocol data

```
19980318 11:30:44 ----------------------
19980318 11:30:44 D:KAMER 1
19980318 11:30:45 ZONE #00
19980318 11:30:45 Z:000 D:0001
19980318 11:30:46 26-01-98 04:13 BRAND
19980318 11:40:54 S:VERWIJDER CFG. STRAP
19980318 11:40:54 S:9146
19980318 11:40:55 26-01-98 04:12 SYS.FOUT
19980318 11:40:57 D:KAMER 56
19980318 11:40:57 Z:001 D:0056
19980318 11:40:58 26-01-98 04:12 ISOLATIE
19980318 11:40:58 ----------------------
19980318 11:40:59 D:KAMER 1
19980318 11:40:59 ZONE #00
19980318 11:41:00 Z:000 D:0001
19980318 11:41:00 26-01-98 04:13 BRAND
19980318 11:42:48 S:VERWIJDER CFG. STRAP
19980318 11:42:49 S:9146
19980318 11:42:49 26-01-98 04:12 SYS.FOUT
19980318 11:44:00 D:KAMER 56
19980318 11:44:01 Z:001 D:0056
19980318 11:44:01 26-01-98 04:12 ISOLATIE
19980318 11:44:02 ----------------------
19980318 11:44:02 D:KAMER 1
19980318 11:44:03 ZONE #00
19980318 11:44:03 Z:000 D:0001
19980318 11:44:04 26-01-98 04:13 BRAND
19980318 11:44:23 ----------------------
19980318 11:44:24 S:NETONDERBREKING
19980318 11:44:24 S:9048      L1.0
19980318 11:44:25 26-01-98 04:13 SYS.FOUT
19980318 11:44:37 ----------------------
19980318 11:44:38 D:KAMER 49
19980318 11:44:38 Z:001 D:0049
19980318 11:44:39 26-01-98 04:14 DET.FOUT
19980318 11:46:14 ----------------------
19980318 11:46:14 S:VERWIJDER CFG. STRAP

continued on next page...
```

```
19980318 11:46:15 S:9146
19980318 11:46:15 26-01-98 04:17 SYS.FOUT
19980318 11:46:29 S:VERWIJDER CFG. STRAP
19980318 11:46:29 S:9146
19980318 11:46:30 26-01-98 04:12 SYS.FOUT
19980318 11:46:34 D:KAMER 56
19980318 11:46:34 Z:001 D:0056
19980318 11:46:35 26-01-98 04:12 ISOLATIE
19980318 11:46:35 ----------------------
```


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Fire alarms are sent to group VSK_F (fire alarm) with alarm description VSK_F, system errors are sent to group VSK_S (system errors) with alarm description VSK_S, detector errors are sent to group VSK_D (detector errors) with alarm description VSK_D.

All alarms are *SET with remove after *RESET. When GENERAL RESET occurs in the datastream, all active alarms for the VSK input program are reset for all groups.

Small differences between the three models are found, for example, in the level of detail in the messages that are sent (for example, FOUT BRANDCENTRALE in DE LICHTERVELDE, VSKFOUT in ST JOZEF and all details in OLV VAN VREDER). Also, fire alarm messages are formatted slightly differently between the models (BRAND or BR*xxxxx where xxxxx denotes a location).

Note: Use of this protocol usually requires consulting services and customizing.

WORMALD

The valid manufacturer is WORMALD and the valid model is *BASE, L:xx (new in release 2.9.11), or G:xxxx (new in release 3.1).

Wormald is based upon installation Alexianen Bouchout and RUCA Antwerpen and is compatible with both versions through automatic-protocol-recognition programming.

The model L:xx defines the group. The model *BASE, identifies the group WORMALD_F or WORMALD_P depending on the type of alarm (see the examples Table 13 "*Alexianen*" (page 329) and Table 16 "*RUCA*" (page 330)).

If the model = L:xx, the first xx characters of the message define the group.

The model G:xxxx is new in release 3.1.0 and defines the group used for all the alarms. The group is xxxx, for example, in G:EIPM, no message is sent to the group EIPM.

If the group is not defined in the Messenger_CFG.mdb database, the eKernel application sends the request to the group identified with a question mark (?), if one is defined in the table eKERNEL_GROUP (field GRP_Descr_str). This feature is supported for eCAP WORMALD only when model = L:xx.

Examples:

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Table 13
Alexianen

```
27/04/99 15:30:23
ALARM 001-084 DK
8000 REV EVACUA
```

This datastream results in *SET of alarm with alarm description WORMALD_F and message F8000 REV EVACUA, remove after *RESET.

The group varies depending on the model

Table 14
F8000 REV EVACUA groups

Model	Group
*BASE	WORMALD_F.
L:01	8 (group description: field GRP_Descr_str from table eKERNEL_GROUP)
L:02	80
L:03	800
L:04	8000
G:BRAND	BRAND (for all alarms, including fire and pre-alarms)

```
27/04/99 19:55:52
VOORALARM 0001-024 ION
9003 KEU EETPL
```

This datastream results in *SET of alarm with alarm description WORMALD_P and message P9003 KEU EETPL, remove after *RESET.

The group varies depending on the model.

Table 15
P9003 KEU EETPL groups

Model	Group
*BASE	WORMALD_P.
L:01	9
L:02	90
L:03	900
L:04	9003
G:BRAND	BRAND (for all alarms including fire and pre-alarms)

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```
27/04/99 19:56:12
Reset
```

This datastream results in a *RESET of alarm description *ALL for group *ALL and message *ALL.

Table 16
RUCA

```
0000.   Brand                MG 099 MLD 009                  01:01:00 01.01.97
        Boodschap
```

This datastream results in a *SET of alarm description WORMALD_F, with message Boodschap and remove after *RESET.

The group varies depending on the model

Table 17
F8000 REV EVACUA groups

Model	Group
*BASE	WORMALD_F.
L:01	B
L:02	Bo
L:03	Boo
L:04	Bood
G:EIPM	EIPM for all alarms

```
0001.  Reset
```

This datastream results in *RESET of alarm description *ALL for group WORMALD_F with message *ALL and remove after *RESET.

Note: Use of this protocol usually requires consulting services and customization.

Generic

Valid manufacturer is GENERIC, valid model is *BASE.

This new manufacturer and model combination is implemented in release 2, to handle fixed-formatted serial inputs that are built upon single lines and separated with a fixed character.

There are many parameters available to define the interpretation of the datastreams that are received through the generic eCAP implementation. These parameters define criteria for retrieval of group, message, alarm

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description, set_or_reset and remove_after parameters. There are also default values available if some parameters are missing. Another set of parameters describes record separators, field separators, and so on.

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Module - eESPA

The module eESPA consists of one program. The program is eESPA.exe and is written in Visual Basic (v6.0).

In general, the programs reside in the default directory C:\SOPHO Messenger@Net\Exe, unless otherwise implemented in your environment.

Note: In release 4.0 an additional implementation is available that you can activate by specifying manufacturer ESPA and model VSK. In most cases, the new VSK implementation is likely to be more compatible than the *BASE system and therefore the preferred method to configure the eESPA module.

Manufacturer ESPA and model BASE

For backwards compatibility, to activate the original implementation of module eESPA by specifying manufacturer ESPA and model *BASE.

Overview

eESPA.exe

The eESPA.exe is a Visual Basic component of the eESPA module. The program communicates with two processes: the eKERNEL.exe and external paging equipment. The eKERNEL.exe is the central engine that centralizes all database access and communication with input and output capable modules.

The eESPA.exe communicates with eKERNEL.exe by means of TCP sockets. In this communication, eESPA.exe is a TCP client software that connects to the eKERNEL component, acting as TCP server software.

At start up, eESPA.exe contacts the eKERNEL.exe by means of a socket connection. eESPA.exe requires at start up a few parameters, so that eESPA can identify itself and locate the eKERNEL.exe program. This is carried out by means of parameters in the properties section of the shortcut that initiates eESPA.exe. This shortcut is usually located in the Windows Startup group.

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Figure 79
Typical parameters in the shortcut

```
"C:\SOPHO Messenger@Net\Exe\eESPA.exe"
/Site:1
/eKernel address:*LOCAL
/eKernel port:3114
/Log drive:C
/SleepBeforeAnswer:0
```

In the example shown in Figure 79 "Typical parameters in the shortcut" (page 334), the eESPA.exe identifies itself as belonging to site 1, and specifies the location of eKERNEL through IP address *LOCAL and port 3114. The special value *LOCAL refers to the assigned IP address of the first NIC adapter found in the PC. You can determine the IP address using the IPCONFIG.exe command or in the appropriate sections of the Windows network settings. The keyword Log drive refers to the drive where the logging data must be stored. Usually this is C:\SOPHO Messenger@Net\Log\.

The keyword SleepBeforeAnswer refers to the number of milliseconds the system waits before sending an answer to the linked station. Some systems block the answer if the answer is sent immediately (less than 6 milliseconds after receipt). Use this parameter to set a delay of x milliseconds before the output is sent.

Note: The maximum supported value is 150 milliseconds

Set this value as low as possible, because during the delay time, the application is inactive, so high values can disrupt the operation of the system.

At start up, the eESPA.exe sends an XML string to eKERNEL.exe requesting a configuration. This step is needed for each module that interacts with eKERNEL.exe, because this approach allows central administration from a single database, even if some client modules are located on a distributed machine.

Figure 80
Typical cfgrqs configuration request and its received cfgrpy configuration reply

```
<xml>
<cfgrqs>
<appl>eESPA</appl>
<site>1</site>
</cfgrqs>
</xml>
```


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```
<xml>
<cfgrpy>
<resource>COM01</resource>
<settings>9600,N,8,1</settings>
<link_type>RS232</link_type>
<ControlStation>Y</ControlStation>
<polling_intv>300</polling_intv>
<Polling_address_list>2</Polling_address_list>
<localAddress>1</localAddress>
<externalAddress>2</externalAddress>
<dataId_Group>1</dataId_Group>
<group_default>eESPA</group_default>
<dataId_Msg>2</dataId_Msg>
<msg_default>Default ESPA msg</msg_default>
<dataId_Ala_descr>3</dataId_Ala_descr>
<ala_descr_default>1</ala_descr_default>
<remove_after>*RESET</remove_after>
<nak_retry_cnt>2</nak_retry_cnt>
<timeout>600</timeout>
<handshaking>0</handshaking>
<log_path>C:\SOPHO Messenger@net</log_path>
<log_days>14</log_days>
</cfgrpy>
</xml>
```

Refer to the appropriate sections on the database tables that define the received parameters for more information on each value. The information in this document is provided for informational purposes only; a detailed description of these internal inter-process communications is beyond the scope of this document.

If no valid license is available to run an eESPA module, the eKERNEL sends a reply <xml><pgmsts>NO LICENSE AVAILABLE</pgmsts></xml> and close its port. If you receive this message upon connection to the eKernel, use Nortel License Manager to see if there is an available license.

When the configuration is received, the **Connection** tab displays information similar to what is pictured in Figure 81 "eESPA Connection tab showing a valid configuration" (page 336).

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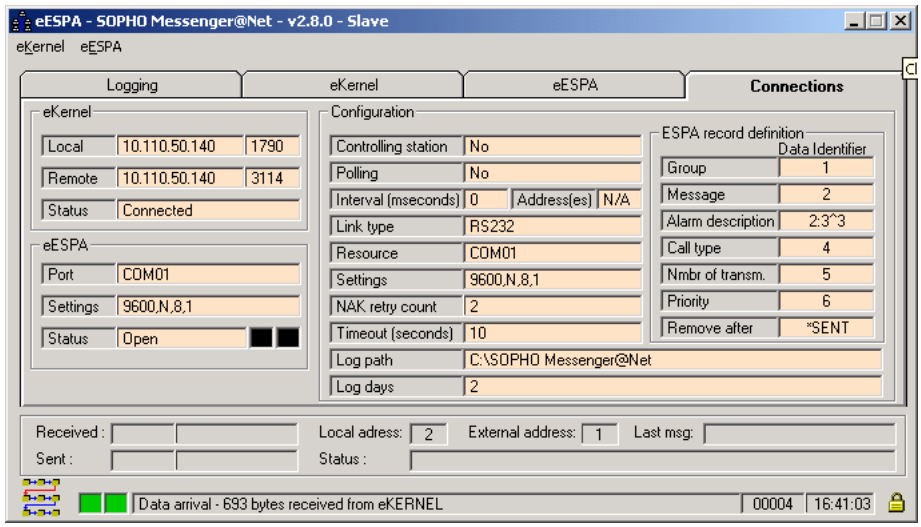
Figure 81
eESPA Connection tab showing a valid configuration



Because the eESPA is designed to handle serial data communications with a number of paging systems, the eESPA must be configured before use. These values are returned through the <cfgrpy> reply that is sent on return of the <cfgrqs> request.

Note: The values shown in Figure 81 "eESPA Connection tab showing a valid configuration" (page 336) are retrieved from the DECT Messenger database; from the KERNEL_INPGM table, and from the eESPA, eESPA_OUTBOUND_CFG, and the eKERNEL_SITE tables.

At start up, the eESPA.exe appears the specified COM port with the specified settings.

Note: The COM port you identify must be available, and you must specify a valid baud rate, and so on.

As well, a physical connection between the specified COM port and the external paging system must be available, which requires a serial cable. In most cases, you can use a standard null-modem cable. However, in some cases, alarm systems support a limited number of control signals (for example, ground, send and receive), so consult the alarm system vendor for cable specifications.

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If no COM ports are available, extra hardware (such as DigiBoard PC/4e and DigiBoard PC/8e) is required to provide extra serial ports. Investigate compatibility issues (operating system support, driver available, and so on) and hardware requirements (memory, available slots, IRQ conflicts, and so on) before purchasing equipment, or configuring the system.

In some cases, additional hardware is needed, for example, when RS-232-C limitations apply (for example, at 9600 baud maximum limit of 9 metres). In some cases galvanic isolation is requested, or base-band modems, SOPHO LAM, CISCO equipment, and so on are needed to bridge the distance between the DECT Messenger and the alarm system. In many cases the distance between the DECT Messenger and the external-paging system is relatively small, so no extra hardware is needed.

Once a link is established between eESPA and the paging system, the eESPA handles further communications and informs eKERNEL when relevant information is to be exchanged.

For a detailed description of the ESPA4.4.4 protocol, refer to the proposal for serial data interface for paging equipment (Nov. 1984), reference JMJ182/NB/12B, and ISO1745 Information processing, basic mode control procedures for data communication systems.

Functional description

In general, eESPA is designed to provide eKERNEL with paging information. This is carried out using a <msgrqs> message request. For some interfaces eKERNEL must send feedback to the paging system, a process that is handled through <msgrpy> message reply request.

Figure 82
msgrqs message request

```
<xml><msgrqs>
<id>00786</id>
<group>1234</group>
<call_type>3</call_type>
<transmission_nmbr>1</transmission_nmbr>
<alarm_cnt>1</alarm_cnt>
<message_01>NURSE ROOM45</message_01>
<beep_code_01>1</beep_code_01>
<priority_01>2</priority_01>
</msgrqs></xml>
```

Every <msgrqs> message belongs to a group and has a specific group ID. A group contains one or more requests. For every message request in a group, a data block is created. A data block consists of a header, record

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separators, unit separators, and data that is retrieved from the message request. Every data block also contains a specifically calculated checksum (block check character ISO 1155). After sending the data over the serial line, the receiving side uses the block check character (BCC) to determine whether data has arrived properly or not. In the event of a successful delivery, the receiving side answers with an ACK.

Figure 83
msgrpy message ACK

```
<xml><msgrpy>
<id>00786</id>
<sts_cnt>1</sts_cnt>
<sts_01>ACK^</sts_01>
</msgrpy></xml>
```

If an incorrect BCC is found, delivery fails, and the receiving side sends a NACK, which is prefixed with error code 1 (Transmission error, corrupt characters or corrupt BCC received by the station).

eESPA handles only data blocks of type 1, Call to Pager data blocks. If another type of data block comes in, eESPA reacts by sending an ACK, but the data block is not processed.

Delivery can also fail if a timeout occurs while sending the data block. The temporary master station, which is always the sending side, expects to receive an ACK within a timeout of eESPA_Timeout_n seconds. In the event of a timeout on sending a data block, the sending side tries to re-send the data block. This retry is attempted x times (where x is the defined value of the field eESPA_NAK_retry_cnt_n in the eESPA table). After retrying x times and not receiving an ACK, the temporary master station decides that the transaction is unsuccessful.

Figure 84
msgrpy message NACK

```
<xml><msgrpy>
<id>00786</id>
<sts_cnt>1</sts_cnt>
<sts_01>NACK^</sts_01>
</msgrpy></xml>
```

Data flow

The ESPA4.4.4 protocol prescribes a controlling station that polls devices on the communication line. Polling means sending out requests for data. The polling device, which is also called controlling station or master, sends

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out requests to the other devices available on the communication line. Every device on the line has a specific address. The characters 0 to 9 are available as addresses. Nortel recommends that you assign the character 1 to the controlling station. In the field eESPA_Polling_address_list_str of the table eESPA you can define multiple addresses of slave devices. At least one address (that represents a slave) is required in this field. Multiple addresses are separated by ^.

For example: the value 2^4^5 in eESPA_Polling_address_list_str defines three slaves that are polled by the controlling station.

Define a control station by placing eESPA_ControlStation_b in the eESPA table on True. eESPA_LocalAddress_n and eESPA_ExternalAddress_n must be filled up respectively with the local address of the module (a controlling station prefers a local address 1), and the address of an external eESPA module or device, with which the module communicates.

The controlling station polls every address with an enquiry. To extend the example, the controlling station sends 2ENQ, 4ENQ, and 5ENQ. The field eESPA_Polling_intv_n in the eESPA table defines the time between sequencing polls.

A slave whose address is polled reacts by replying with either a nothing-to-transmit (EOT), or an enquiry (<master address>ENQ) that tells the controlling station that this slave wants to transmit some data. If a slave receives data that is not assigned to the slave address, the slave ignores the data. If a slave does not respond to an enquiry within eESPA_Timeout_n seconds, the controlling station places this slave in a special offline list. When polling, the controlling station reads the offline list to determine if a slave is online or not, before sending an enquiry. After 60 seconds, the slave is removed from the offline list, and polling to the IP address of the slave is restarted. If the slave does not react, the slave is put back in the offline list. By using an offline list (also known as a black list) the polling interval is not disturbed by repeated timeouts of some slaves.

The controlling station stops polling when data is waiting to be sent to one of the slaves, or when a slave has indicated that data is ready to send.

The controlling station stops polling when a message request is received from the eKERNEL. The controlling station then creates a data block and sends this to the appropriate slave address. A slave station sends data in the same fashion, but with one difference: the slave first has to wait to be polled to tell the controlling station that data is ready to send. When a slave is polled and has data to send, the slave tells the controlling station to stop polling. The controlling station accepts this request by sending an ACK to the slave that wants to send data. When it receives an ACK

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from the controlling station, the slave becomes temporarily master station. Only a master station is able to send data blocks. A master station always sends data; a slave always receives. In this scenario, the controlling station becomes (temporarily) a slave.

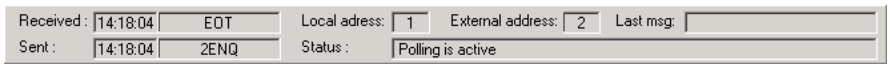
Every eESPA module has a status bar with some additional information about the actual communication situation.

- The label Receiving shows the timestamp and the latest incoming databits. Values that can appear on this label are as follows: ACK, NAK, EOT, address + ENQ, SOH (start of data), and data.
- The label Sent shows the timestamp and the databit that was last sent. Values that can appear on this label are as follows: ACK, NAK, EOT, address + ENQ, SOH (start of data), and data.
- The Local address field shows the defined value of eESPA_LocalAddress_n in the eESPA table. Nortel recommends that you set the controlling station local address to 1. The field eESPA_ControlStation_b in the eESPA table defines whether this module is a controlling station or not.

  In the DECT Messenger model, a module always communicates with one other module (master to slave or point to point). The address of the other station is defined in the eESPA_ExternalAddress_n field in the eESPA table. In the case of a non-controlling module (defined by setting eESPA_ControlStation_b on No in the database), for example, you can use a local address of 2 and an external address of 1. In this case, the module communicates directly with the controlling station.
- The label Status shows log information to allow users to see special actions.

Figure 85 "Status of master/slave" (page 340) shows an example of the eESPA status bar.

Figure 85
Status of master/slave



Logging

In the **Logging** tab, only basic (default) logging is shown.

Basic logging: incoming and outgoing data on the communication port (I:COM and O:COM), incoming and outgoing data on the socket communication with the eKernel (I:TCP and O:TCP), and warning information.

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To show and log additional information, choose the menu item **eESPA > Logging > Detailed**. The additional information is set in bold in Figure 86 "Detailed logging information" (page 341).

Figure 86
Detailed logging information

```
I:INF:--> Created datablock is: _1_156789-2eAPI Koekoek-51-63_O
O:COM:_1_156789-2eAPI Koekoek-51-63_O
I:INF:--> ACK received on sending datablock
O:COM:EOT
I:INF:--> Concluded transaction with sending an EOT
I:COM:ACK
I:COM:EOT
I:INF:--> Received EOT character after sending messages.
O:COM:EOT
O:TCP:<xml><msgrpy><id>00124</id><sts_cnt>1</sts_cnt>
<sts_01>ACK^</sts_01></msgrpy></xml>
```

The label Last message shows the last sent or received message.

Manufacturer ESPA and model ASCOM

In release 4.0 an additional implementation of ESPA 4.4.4 protocol is available. You can activate it by defining manufacturer ESPA and model ASCOM. For further information, contact Unified Communications Professional Services (UCPS) division for more information.

Manufacturer ESPA and model VSK

In release 4.0 an additional implementation of ESPA 4.4.4 protocol is available, and is activated by defining the manufacturer ESPA and model VSK.

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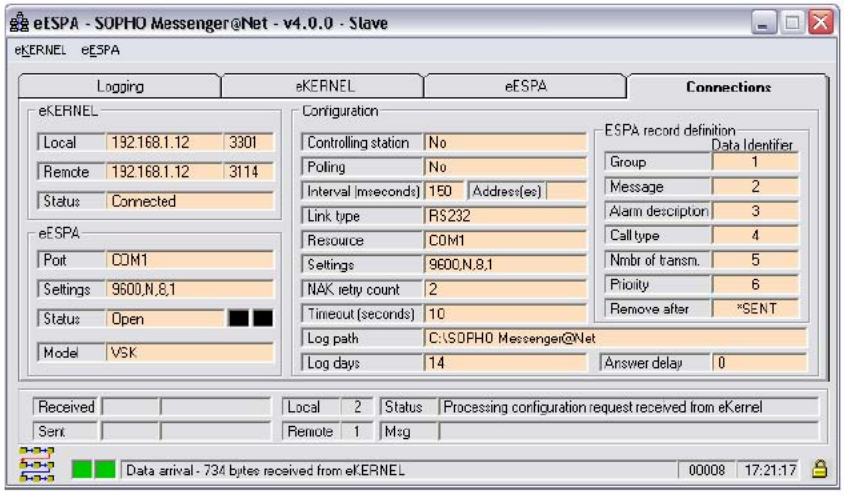
Figure 87
Field model containing VSK



Restrictions:

- Configure eESPA as Control station value No. The remote system is then control station and handles polling.
- Set the field Polling to No.
- Only one data block is received at a time.

In the example shown in Figure 88 "2[ENQ] with response [EOT]" (page 342) it is assumed:

- The remote system (master) is using address 1
- The local system (slave) is using address 2

Different application logic and code is used when model VSK is used, mainly because different polling is supported. The original code assumes polling is 2[ENQ] with the response [EOT].

Figure 88
2[ENQ] with response [EOT]

```
06/06/2007 18:38:11 - I:COM:2
06/06/2007 18:38:11 - I:COM:[ENQ]
06/06/2007 18:38:11 - O:COM:[EOT]
```

VSK implementation also supports local polling of the control station. Note that 1[ENQ][EOT] is received and no response is made.

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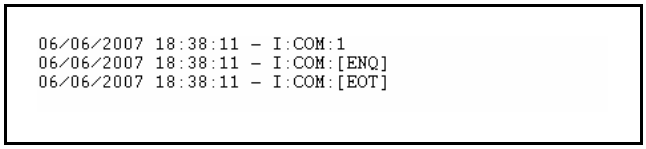
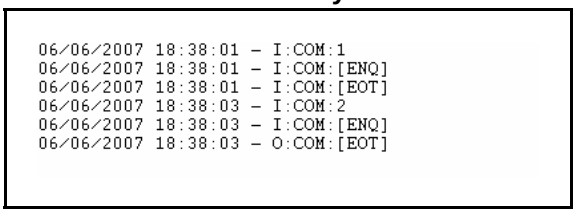
Figure 89
1[ENQ][EOT], no response



For example, the FalconNet fire detection system alternatively polls itself and then the remote system (eESPA), as shown in Figure 90 "FalconNet fire detection system" (page 343).

Figure 90
FalconNet fire detection system



To improve problem determination, a more detailed and human readable logging is enabled when the model VSK is used.

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Figure 91
Logging using model VSK

```
06/06/2007 18:37:37 - S:INF:COM01 opened with settings 9600,N,8,1
06/06/2007 18:38:06 - I:COM:1
06/06/2007 18:38:06 - I:COM:[ENQ]
06/06/2007 18:38:06 - I:COM:2
06/06/2007 18:38:06 - I:COM:[ENQ]
06/06/2007 18:38:06 - O:COM:[ACK]
06/06/2007 18:38:10 - I:COM:2
06/06/2007 18:38:10 - I:COM:[ENQ]
06/06/2007 18:38:10 - O:COM:[EOT]
06/06/2007 18:38:11 - I:COM:2
06/06/2007 18:38:11 - I:COM:[ENQ]
06/06/2007 18:38:11 - O:COM:[EOT]
06/06/2007 18:38:12 - I:COM:2
06/06/2007 18:38:12 - I:COM:[ENQ]
06/06/2007 18:38:12 - O:COM:[EOT]
06/06/2007 18:38:13 - I:COM:1
06/06/2007 18:38:13 - I:COM:[ENQ]
06/06/2007 18:38:13 - I:COM:[EOT]
06/06/2007 18:38:15 - I:COM:2
06/06/2007 18:38:15 - I:COM:[ENQ]
06/06/2007 18:38:15 - O:COM:[EOT]
06/06/2007 18:38:17 - I:COM:1
06/06/2007 18:38:17 - I:COM:[ENQ]
06/06/2007 18:38:17 - I:COM:[EOT]
06/06/2007 18:38:17 - I:COM:2
06/06/2007 18:38:17 - I:COM:[ENQ]
06/06/2007 18:38:17 - O:COM:[EOT]
06/06/2007 18:38:18 - I:COM:1
06/06/2007 18:38:18 - I:COM:[ENQ]
06/06/2007 18:38:18 - I:COM:[EOT]
06/06/2007 18:38:18 - I:COM:2
06/06/2007 18:38:18 - I:COM:[ENQ]
06/06/2007 18:38:18 - O:COM:[EOT]
06/06/2007 18:38:19 - I:COM:1
06/06/2007 18:38:19 - I:COM:[ENQ]
06/06/2007 18:38:19 - I:COM:[EOT]
06/06/2007 18:38:19 - I:COM:2
06/06/2007 18:38:19 - I:COM:[ENQ]
06/06/2007 18:38:19 - O:COM:[EOT]
06/06/2007 18:38:20 - I:COM:1
06/06/2007 18:38:20 - I:COM:[ENQ]
06/06/2007 18:38:20 - I:COM:[EOT]
06/06/2007 18:38:20 - I:COM:2
06/06/2007 18:38:20 - I:COM:[ENQ]
06/06/2007 18:38:20 - O:COM:[EOT]
06/06/2007 18:38:23 - I:COM:[EOT]
06/06/2007 18:38:23 - I:COM:2
06/06/2007 18:38:23 - I:COM:[ENQ]
06/06/2007 18:38:23 - O:COM:[EOT]
06/06/2007 18:38:24 - I:COM:[EOT]
06/06/2007 18:38:24 - I:COM:2
06/06/2007 18:38:24 - I:COM:[ENQ]
06/06/2007 18:38:24 - O:COM:[EOT]
06/06/2007 18:38:26 - I:COM:1
06/06/2007 18:38:26 - I:COM:[ENQ]
```


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```
06/06/2007 18:38:26 - I:COM:[EOT]
06/06/2007 18:38:27 - I:COM:2
06/06/2007 18:38:27 - I:COM:[ENQ]
06/06/2007 18:38:27 - O:COM:[EOT]
06/06/2007 18:38:28 - I:COM:1
06/06/2007 18:38:28 - I:COM:[ENQ]
06/06/2007 18:38:28 - I:COM:2
06/06/2007 18:38:28 - I:COM:[ENQ]
06/06/2007 18:38:28 - O:COM:[ACK]
06/06/2007 18:38:30 - I:COM:[SOH]
06/06/2007 18:38:30 - I:COM:1
06/06/2007 18:38:30 - I:COM:[STX]
06/06/2007 18:38:30 - I:COM:1
06/06/2007 18:38:30 - I:COM:[US]
06/06/2007 18:38:30 - I:COM:G
06/06/2007 18:38:30 - I:COM:R
06/06/2007 18:38:30 - I:COM:O
06/06/2007 18:38:30 - I:COM:E
06/06/2007 18:38:30 - I:COM:P
06/06/2007 18:38:30 - I:COM:B
06/06/2007 18:38:30 - I:COM:+
06/06/2007 18:38:30 - I:COM:3
06/06/2007 18:38:30 - I:COM:[RS]
06/06/2007 18:38:30 - I:COM:2
06/06/2007 18:38:30 - I:COM:[US]
06/06/2007 18:38:30 - I:COM:T
06/06/2007 18:38:30 - I:COM:6
06/06/2007 18:38:30 - I:COM::
06/06/2007 18:38:30 - I:COM:
06/06/2007 18:38:30 - I:COM:*
06/06/2007 18:38:30 - I:COM:A
06/06/2007 18:38:30 - I:COM:S
06/06/2007 18:38:30 - I:COM:Y
06/06/2007 18:38:30 - I:COM:S
06/06/2007 18:38:30 - I:COM:T
06/06/2007 18:38:30 - I:COM:O
06/06/2007 18:38:30 - I:COM:L
06/06/2007 18:38:30 - I:COM:I
06/06/2007 18:38:30 - I:COM:E
06/06/2007 18:38:30 - I:COM:
06/06/2007 18:38:30 - I:COM:H
06/06/2007 18:38:31 - I:COM:F
06/06/2007 18:38:31 - I:COM:
06/06/2007 18:38:31 - I:COM:0
06/06/2007 18:38:31 - I:COM:
06/06/2007 18:38:31 - I:COM:,
06/06/2007 18:38:31 - I:COM:
06/06/2007 18:38:31 - I:COM:M
06/06/2007 18:38:31 - I:COM:a
06/06/2007 18:38:31 - I:COM:r
06/06/2007 18:38:31 - I:COM:i
06/06/2007 18:38:31 - I:COM:e
06/06/2007 18:38:31 - I:COM:
```


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```
06/06/2007 18:38:31 - I:COM:3
06/06/2007 18:38:31 - I:COM:4
06/06/2007 18:38:31 - I:COM:3
06/06/2007 18:38:31 - I:COM:/
06/06/2007 18:38:31 - I:COM:1
06/06/2007 18:38:31 - I:COM:
06/06/2007 18:38:31 - I:COM:M
06/06/2007 18:38:31 - I:COM:a
06/06/2007 18:38:31 - I:COM:s
06/06/2007 18:38:31 - I:COM:c
06/06/2007 18:38:31 - I:COM:h
06/06/2007 18:38:31 - I:COM:e
06/06/2007 18:38:31 - I:COM:l
06/06/2007 18:38:31 - I:COM:e
06/06/2007 18:38:31 - I:COM:i
06/06/2007 18:38:31 - I:COM:n
06/06/2007 18:38:31 - I:COM:[RS]
06/06/2007 18:38:31 - I:COM:4
06/06/2007 18:38:31 - I:COM:[US]
06/06/2007 18:38:31 - I:COM:3
06/06/2007 18:38:31 - I:COM:[RS]
06/06/2007 18:38:31 - I:COM:3
06/06/2007 18:38:31 - I:COM:[US]
06/06/2007 18:38:31 - I:COM:1
06/06/2007 18:38:31 - I:COM:[RS]
06/06/2007 18:38:31 - I:COM:6
06/06/2007 18:38:31 - I:COM:[US]
06/06/2007 18:38:31 - I:COM:1
06/06/2007 18:38:31 - I:COM:[ETX]
06/06/2007 18:38:31 - I:COM:,
06/06/2007 18:38:31 - S:INF:Processing of received data
[SOH]1[STX]1[US]GROEPB+3[RS]2[US]T6: ***ASYSTOLIE HF 0 , Marie 343/1
Masschelein[RS]4[US]3[RS]3[US]1[RS]6[US]1[ETX],
06/06/2007 18:38:31 - O:COM:[ACK]
06/06/2007 18:38:31 -
O:TCP:<xml><msgrqs><set_or_reset>*SET</set_or_reset><msg>T6:
***ASYSTOLIE
HF 0 , Marie 343/1
Masschelein</msg><alarmdescr>T</alarmdescr><group>GROEPB+3</group><remov
e_afte
r>*SENT</remove_after></msgrqs></xml>
06/06/2007 18:38:34 - I:COM:[EOT]
```


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Module - eESPA - sample

Table 18

MASTER (address 1)		SLAVE (address 2)
No data to be transferred		
2ENQ		
		EOT
Master has data to be transferred		
1ENQ (I want to send something)		
2ENQ (Destination address)		
		ACK (I am ready to receive data)
Data Block1		
		1NAK
Data Block1		
		ACK

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Table 18
(cont'd.)

MASTER (address 1)		SLAVE (address 2)
EOT		
		EOT
2ENQ (polling)		
Master has data to be transferred (Slave is not ready to receive data)		
1ENQ (I want to send something)		
2ENQ (Destination address)		
		1NAK (Transmission error)
EOT		
1ENQ		
2ENQ		
		1NAK
EOT		
Slave has data to be transferred		
2ENQ		

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Table 18
(cont'd.)

MASTER (address 1)		SLAVE (address 2)
		1ENQ (I have data for address 1)
ACK (I am ready to receive data)		
		DATA Block1
ACK		
		DATA Block2
1NAK (Transmission error)		
		DATA Block2
ACK		
		EOT
2ENQ (Polling)		
		EOT
2ENQ		

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Table 18
(cont'd.)

MASTER (address 1)		SLAVE (address 2)
		EOT
...		

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Module - eDMSAPI

The module eDMSAPI consists of two separate programs. One program is eDMSAPI and is written in Visual Basic. The other program is called CSTA_Service.exe and is written in C++.

In general, both programs reside in the default directory C:\SOPHO Messenger@Net\Exe, unless otherwise implemented in your environment.

Overview

eDMSAPI.exe

The eDMSAPI is the Visual Basic component of the eDMSAPI module. The program communicates with two processes: the eKERNEL and the CSTA Service. The eKERNEL is the central engine that centralizes all database access and communication with input and output capable modules.

The eDMSAPI communicates with both eKERNEL and CSTA_Service.exe by means of TCP sockets. In both communications, eDMSAPI is a TCP client software that connects to the two other components, acting as TCP server software.

For external clients (eWEB), the eDMSAPI acts as a multiple socket server.

At start up, eDMSAPI contacts the eKERNEL by means of a socket connection. For the eDMSAPI module to locate the eKERNEL, the eDMSAPI must start up with parameters that identify the eDMSAPI module and locate the eKERNEL program. These parameters are provided to eDMSAPI in the Properties section of the shortcut that initiates eDMSAPI. This shortcut is usually located in the Windows Startup group (click **Start** on the Windows task bar and choose **Programs > Startup**).

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Figure 92
Typical parameters in the shortcut

```
"C:\SOPHO Messenger@Net\Exe\eDMSAPI.exe"
/Site:1
/eKernel port:3101
/eKernel address:*LOCAL
/Log drive:C
```

In the example shown in Figure 92 "Typical parameters in the shortcut" (page 352), eDMSAPI identifies itself as belonging to Site 1, and specifies the location of eKERNEL through IP address *LOCAL and port 3101. The special value *LOCAL refers to the assigned IP address of the first NIC adapter found in the PC. You can determine the IP address using the IPCONFIG.exe command or in the appropriate sections of the Windows network settings. The keyword Log drive refers to the drive where the logging data must be stored; usually this is C:\SOPHO Messenger@Net\Log\.

At startup, the eDMSAPI sends an XML string to eKERNEL requesting a configuration. This step is needed for each module that interacts with eKERNEL, because this approach allows central administration using a single database, even if some client modules are located on a distributed machine.

Figure 93
A typical cfgrqs configuration request and its received cfgrpy configuration reply

```
<xml>
<cfgrqs>
<appl>eDMSAPI</appl>
<site>1</site>
</cfgrqs>
</xml>
```


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```
<xml>
<cfgrpy>
<seat_cnt>20</seat_cnt>
<msg_dly>3</msg_dly>
<csta_api_address>10.110.50.140</csta_api_address>
<csta_api_port>59000</csta_api_port>
<external_seat_cnt>3</external_seat_cnt>
<external_port>2010</external_port>
<csta_pbx_address>10.110.49.171</csta_pbx_address>
<csta_pbx_port>2555</csta_pbx_port>
<csta_licence>Messenger</csta_licence>
<guarding_intv>60</guarding_intv>
<guarding_Retry_intv>20</guarding_Retry_intv>
<eKernel_Seat_cnt>10</eKernel_Seat_cnt>
<GeneralTimeOut>15</GeneralTimeOut>
<Ack2TimeOut>30</Ack2TimeOut>
<DataPathDelay>2</DataPathDelay>
<network>ETHERNET_DMC</network>(new in Msg@Net R3.0)
<pbxtype>DMC</pbxtype>(new in Msg@Net R3.0)
<IoReg_cnt>3</IoReg_cnt>
<IoReg_0001>863</IoReg_0001>
<IoReg_0002>123</IoReg_0002>
<IoReg_0003>914</IoReg_0003>
><keepalive>60</keepalive>
<log_path>C:\SOPHO Messenger@net</log_path>
<log_days>14</log_days>
</cfgrpy>
</xml>
```

Table 19
Possible values for the network and pbxtype tags

eDMSAPI_PBX_type_str(eDMSAPI	<pbxtype>	<network>
DAP controller	DAP Controller	dasgif
DMC	DMC	ETHERNET_DMC
NORTEL	NORTEL	Dasgif

Refer to the chapters of this document that deal with the database tables for more information on each value. A detailed description of these internal inter-process communications is beyond the scope of this document.

The parameter <IoReg_cnt> specifies how much DECT extension is IoRegistered (can send data messages to the DECT Messenger application).

The parameter <IoReg_xxxx> (where xxxx starts with 0001 until IoReg_cnt) specifies the DECT extensions that must be IoRegistered.

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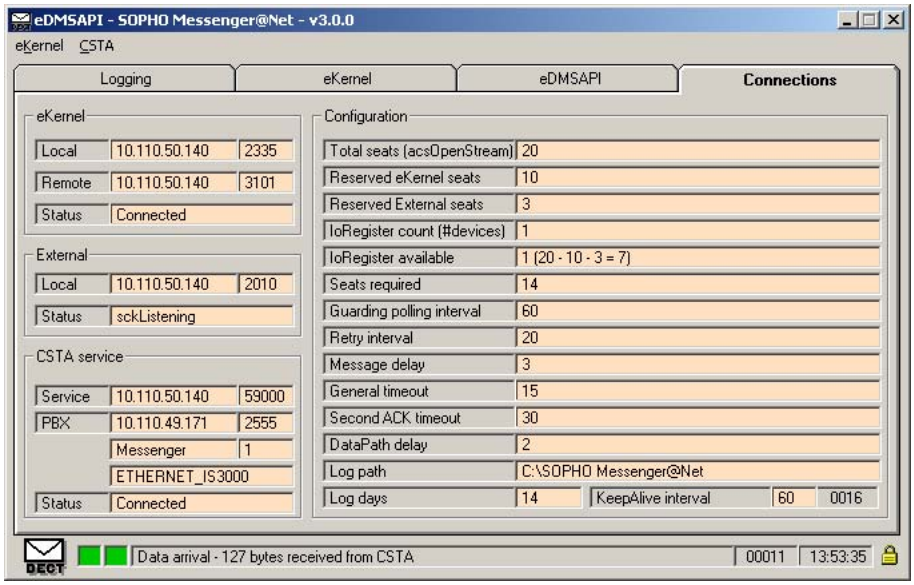
Figure 94
eDMSAPI Connections



In the left panel of the window shown in Figure 94 "eDMSAPI Connections" (page 354), the configuration and state of the different socket connections is shown.

On the right side, the configuration parameters received (<cfgrpy>) from the eKernel are shown.

> ***Note:*** When the eDMSAPI functionality is not licensed, the eKernel sends the following configuration reply: <xml><cfgrpy><license>NO LICENSE AVAILABLE</license></cfgrpy></xml>. After sending this reply to eDMSAPI, the port through which the eDMSAPI is communicating is closed on the eKernel side.

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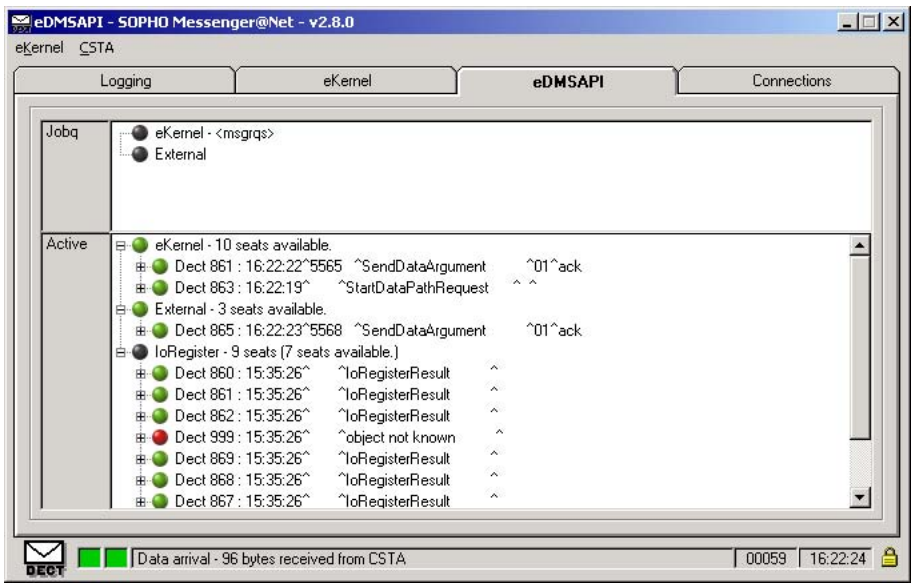
Figure 95
eDMSAPI tab


eDMSAPI - SOPHO Messenger@Net - v2.8.0
eKernel CSTA
Logging
eKernel
eDMSAPI
Connections
Jobq
eKernel - <msgrqs>
External
Active
eKernel - 10 seats available.
Dect 861 : 16:22:22^5565 ^SendDataArgument ^01^ack
Dect 863 : 16:22:19^ ^StartDataPathRequest ^ ^
External - 3 seats available.
Dect 865 : 16:22:23^5568 ^SendDataArgument ^01^ack
IoRegister - 9 seats (7 seats available.)
Dect 860 : 15:35:26^ ^IoRegisterResult ^
Dect 861 : 15:35:26^ ^IoRegisterResult ^
Dect 862 : 15:35:26^ ^IoRegisterResult ^
Dect 999 : 15:35:26^ ^object not known ^
Dect 869 : 15:35:26^ ^IoRegisterResult ^
Dect 868 : 15:35:26^ ^IoRegisterResult ^
Dect 867 : 15:35:26^ ^IoRegisterResult ^
Data arrival - 96 bytes received from CSTA
00059
16:22:24

Note that during call handling, the eDMSAPI tab shows an overview of current call states of each device. The window consists of two sections:

- The Jobq section contains two job queues. One jobq is for the request from eKernel, and the other is for requests from external clients.

  This area is used to temporarily store requests that are waiting to be executed. For instance, when all the data paths are in use, new requests must wait until resources are available.

  Requests can come from the eKernel (<msgrqs>) or from an external client (SNDNMSG|ID|DNR|MESSAGE<cr><lf> or SNDUMSG|ID|DNR|MESSAGE<cr><lf>)

  The functionality to receive requests from external clients is supported only for the DECT Messenger application (internal use only).

- The Active section contains active jobs. This area is used to handle currently active requests. There are three different sections in this area: the eKernel, the External and the IoRegister.

  The eKERNEL and External areas show the active extensions. Active requests wait for acknowledge from the CSTA Service. A normal message receives an ACK or NAK (StopDataPathRequest) reply. An urgent message receives an initial ACK or NAK. Urgent messages that receive ACK wait <Ack2TimeOut> seconds for a second ACK or a NAK.

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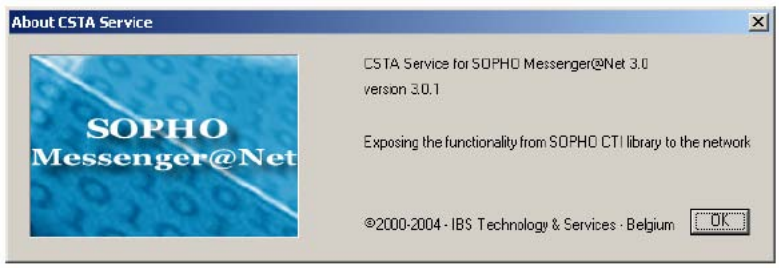
Overview of CSTA_Service.EXE

The CSTA_Service runs behind the scenes and communicates through CSTA.DLL with a PBX. The CSTA_Service acts as TCP server towards eCSTA. Communications to a PBX is done through CSTA.DLL, based upon Ethernet iS-Link CSTA interface on Ethernet. Details on these communications are beyond the scope of this document.

The CSTA_Service has no user interface, but an icon appears in the tray when it is running. When you right-click on the icon, a pop-up windows appears and shows the following options.

- **About CSTA Service** shows a banner with a copyright information panel similar to the one shown in the next figure.

Figure 96
About CSTA service


About CSTA Service
SOPHO
Messenger@Net
CSTA Service for SOPHO Messenger@Net 3.0
version 3.0.1
Exposing the functionality from SOPHO CTI library to the network
©2000-2004 - IBS Technology & Services - Belgium
OK

- You can use **Kill all clients** to disconnect all TCP connections, for example the TCP/IP connection to eCSTA. Do not perform this function unless instructed to do so by service support.
- You can use **End CSTA Service** to close the CSTA_Service program.

Logging

The eDMSAPI application provides logging to both the window and to logging files on disk.

You can view the on-screen log through the Logging tab:

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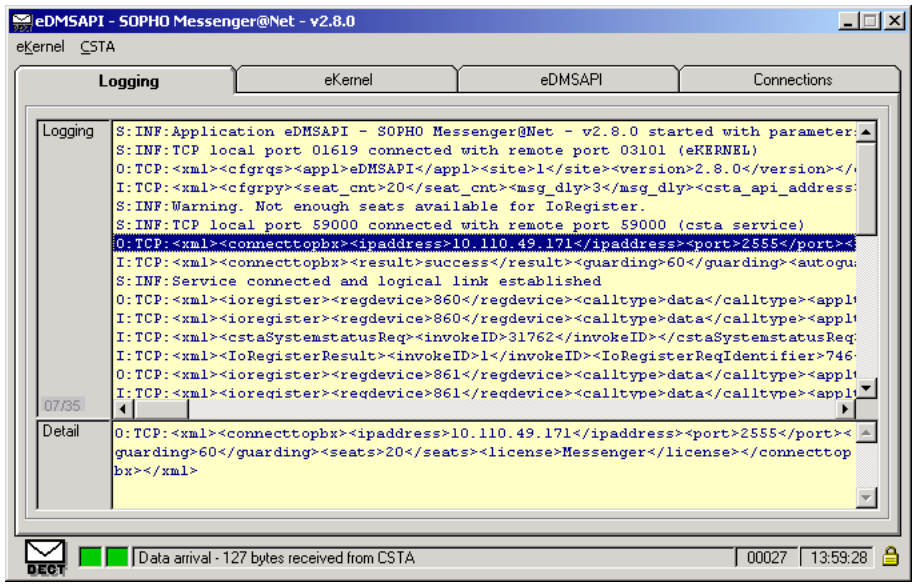
Figure 97
Logging information



Sample logging data is shown in Figure 98 "Log example: initialization procedure" (page 358).

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Figure 98
Log example: initialization procedure

```
03/10/2002 13:58:52 - S:INF:Application eDMSAPI - SOPHO Messenger@Net -
v2.8.0 started with parameters /Site:1 /eKernel address:*LOCAL /eKernel
port:3101 /Log drive:C

03/10/2002 13:58:53 - S:INF:TCP local port 01619 connected with remote
port 03101 (eKERNEL)

03/10/2002 13:58:53 - O:TCP:<xml><cfgrqs><appl>eDMSAPI</appl><site>1</
site><version>2.8.0</version></cfgrqs></xml>

PBX type:DMC
28/06/2004 13:58:55 - I:TCP:<xml><cfgrpy><seat_cnt>20</
seat_cnt><msg_dly>3</msg_dly><csta_api_address>10.110.50.140</
csta_api_address><csta_api_port>59000</
csta_api_port><external_seat_cnt>3</
external_seat_cnt><external_port>2010</
external_port><csta_pbx_address>10.110.49.171</
csta_pbx_address><csta_pbx_port>2555</csta_pbx_port><csta_licence>Mes-
senger</csta_licence><guarding_intv>60</
guarding_intv><guarding_Retry_intv>20</
guarding_Retry_intv><eKernel_Seat_cnt>10</eKernel_Seat_cnt><GeneralTim-
eOut>15</GeneralTimeOut><Ack2TimeOut>30</Ack2TimeOut><DataPathDelay>2</
DataPathDelay><network>ETHERNET_DMC</network><pbxtype>DMC</pbx-
type><IoReg_cnt>9</IoReg_cnt><IoReg_0001>860</
IoReg_0001><IoReg_0002>861</IoReg_0002><IoReg_0003>862</
IoReg_0003><IoReg_0004>999</IoReg_0004><IoReg_0005>869</
IoReg_0005><IoReg_0006>868</IoReg_0006><IoReg_0007>867</
IoReg_0007><IoReg_0008>866</IoReg_0008><IoReg_0009>865</
IoReg_0009><log_path>C:\SOPHO Messenger@net</log_path><log_days>14</
log_days></cfgrpy></xml>

PBX type:DAP controller
28/06/2004 13:58:55 - I:TCP:<xml><cfgrpy><seat_cnt>20</
seat_cnt><msg_dly>3</msg_dly><csta_api_address>10.110.50.140</
csta_api_address><csta_api_port>59000</
csta_api_port><external_seat_cnt>3</
external_seat_cnt><external_port>2010</
external_port><csta_pbx_address>10.110.49.171</

continued on next page...
```


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```
csta_pbx_address><csta_pbx_port>28001</csta_pbx_port><csta_licence>Mes-
senger</csta_licence><guarding_intv>60</
guarding_intv><guarding_Retry_intv>20</
guarding_Retry_intv><eKernel_Seat_cnt>10</eKernel_Seat_cnt><GeneralTim-
eOut>15</GeneralTimeOut><Ack2TimeOut>30</Ack2TimeOut><DataPathDelay>2</
DataPathDelay><network> dasgif</network><pbxtype> DAP Controller</pbx-
type><IoReg_cnt>9</IoReg_cnt><IoReg_0001>860</
IoReg_0001><IoReg_0002>861</IoReg_0002><IoReg_0003>862</
IoReg_0003><IoReg_0004>999</IoReg_0004><IoReg_0005>869</
IoReg_0005><IoReg_0006>868</IoReg_0006><IoReg_0007>867</
IoReg_0007><IoReg_0008>866</IoReg_0008><IoReg_0009>865</
IoReg_0009><log_path>C:\SOPHO Messenger@net</log_path><log_days>14</
log_days></cfgrpy></xml>

PBX type:NORTEL
28/06/2004 13:58:55 - I:TCP:<xml><cfgrpy><seat_cnt>20</
seat_cnt><msg_dly>3</msg_dly><csta_api_address>10.110.50.140</
csta_api_address><csta_api_port>59000</
csta_api_port><external_seat_cnt>3</
external_seat_cnt><external_port>2010</
external_port><csta_pbx_address>10.110.49.171</
csta_pbx_address><csta_pbx_port>28001</csta_pbx_port><csta_licence>Mes-
senger</csta_licence><guarding_intv>60</
guarding_intv><guarding_Retry_intv>20</
guarding_Retry_intv><eKernel_Seat_cnt>10</eKernel_Seat_cnt><GeneralTim-
eOut>15</GeneralTimeOut><Ack2TimeOut>30</Ack2TimeOut><DataPathDelay>2</
DataPathDelay><network> dasgif</network><pbxtype>NORTEL</pbx-
type><IoReg_cnt>9</IoReg_cnt><IoReg_0001>860</
IoReg_0001><IoReg_0002>861</IoReg_0002><IoReg_0003>862</
IoReg_0003><IoReg_0004>999</IoReg_0004><IoReg_0005>869</
IoReg_0005><IoReg_0006>868</IoReg_0006><IoReg_0007>867</
IoReg_0007><IoReg_0008>866</IoReg_0008><IoReg_0009>865</
IoReg_0009><log_path>C:\SOPHO Messenger@net</log_path><log_days>14</
log_days></cfgrpy></xml>


03/10/2002 13:58:55 - S:INF:Warning. Not enough seats available for
IoRegister.
```

continued on next page...

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```
03/10/2002 13:59:00 - S:INF:TCP local port 59000 connected with remote
port 59000 (csta service)

PBX type:DMC
03/10/2002 13:59:00 - O:TCP:<xml><connecttopbx><ipad-
dress>10.110.49.171</ipaddress><port>2555</port><guarding>60</guard-
ing><seats>20</seats><licence>Messenger</licence>
<network>ETHERNET_DMC</network></connecttopbx></xml>

PBX type:DAP controller
03/10/2002 13:59:00 - O:TCP:<xml><connecttopbx><ipad-
dress>10.110.49.171</ipaddress><port>28001</port><guarding>60</guard-
ing><seats>20</seats><licence>Messenger</licence><network>dasgif</
network></connecttopbx></xml>

PBX type:NORTEL
03/10/2002 13:59:00 - O:TCP:<xml><connecttopbx><ipad-
dress>10.110.49.171</ipaddress><port>28001</port><guarding>60</guard-
ing><seats>20</seats><licence>Messenger</licence><network>dasgif</
network></connecttopbx></xml>


03/10/2002 13:59:00 - I:TCP:<xml><connecttopbx><result>success</re-
sult><guarding>60</guarding><autoguarding>1</autoguarding></connecttop-
bx></xml>

03/10/2002 13:59:00 - S:INF:Service connected and logical link estab-
lished

03/10/2002 13:59:00 - O:TCP:<xml><ioregister><regdevice>860</regde-
vice><calltype>data</calltype><appltype>messaging</appltype></ioregis-
ter></xml>

03/10/2002 13:59:00 - I:TCP:<xml><IoRegisterResult><invokeID>1</in-
vokeID><IoRegisterReqIdentifier>746</IoRegisterReqIdentifier></IORegis-
terResult></xml>
03/10/2002 13:59:00 - I:TCP:<xml><cstaSystemstatusReq><invokeID>31762</
invokeID></cstaSystemstatusReq></xml> (Guarding)
>
</xml>
```


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Figure 99
Log example: Message handling

```
03/10/2002 12:08:57 - I:TCP:<xml><msgrqs><id>00774</id> <ext>861</ext>
<ext_prty>6</ext_prty><pag_01>Guarding AM TELEVIC             </
pag_01><prty_01>N</prty_01><pag_more>N</pag_more><format>16^16^0^5^2</
format>
</msgrqs></xml>

PBX type: DMC and DAP controller: NORMAL and/or URGENT messages
03/10/2002 12:08:57 - O:TCP:<xml><startdatapathdevice><deviceID>861</de-
viceID><pathtype>text</pathtype>
<dirtype>bi</dirtype><homelocationnumber>1<homelocationnumber> </start-
datapathdevice></xml>

PBX type: NORTEL: NORMAL and/or URGENT messages
03/10/2002 12:08:57 - O:TCP:<xml><startdatapathdevice><deviceID>861</de-
viceID><pathtype>text</pathtype>
<dirtype>bi</dirtype><homelocationnumber>0<homelocationnumber> </start-
datapathdevice></xml>

PBX type: DMC and DAP controller: also Emergency messages
03/10/2002 12:08:57 - O:TCP:<xml><startdatapathdevice><deviceID>861</de-
viceID><pathtype>text</pathtype>
<dirtype>bi</dirtype><callcategory>emergency</callcategory> <homeloca-
tionnumber>1<homelocationnumber></startdatapathdevice></xml>

PBX type: NORTEL: Emergency messages
03/10/2002 12:08:57 - O:TCP:<xml><startdatapathdevice><deviceID>861</de-
viceID><pathtype>text</pathtype>
<dirtype>bi</dirtype><callcategory>emergency</callcategory><homeloca-
tionnumber> 0<homelocationnumber></startdatapathdevice></xml>

03/10/2002 12:08:58 - I:TCP:<xml><StartDataPathResult><IoCrossRefIdenti-
fier>5697</IoCrossRefIdentifier>
<invokeID>58</invokeID></StartDataPathResult></xml>

03/10/2002 12:08:58 - O:TCP:<xml><senddata><iocrossrefid>5697</iocross-
refid>
<Text>Guarding AM TELEVIC             01/01</Text><originator>pbx</orig-
inator>
```

continued on next page...

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```
<msgtype>normal</msgtype><direction>outbound</direction></senddata></
xml>

03/10/2002 12:08:58 - I:TCP:<xml><SendDataResult><invokeID>59</in-
vokeID></SendDataResult></xml>

03/10/2002 12:09:00 - I:TCP:<xml><SendDataArgument><invokeID>31206</in-
vokeID>
<ioCrossRefIdentifier>5697</ioCrossRefIdentifier><Provider>1</Provider>
<Text><ack></Text></SendDataArgument></xml>

03/10/2002 12:09:00 - O:TCP:<xml><senddataresult><invokeID>31206</in-
vokeID></senddataresult></xml>

03/10/2002 12:09:00 - O:TCP:<xml><stopdatapath><iocrossrefid>5697</
iocrossrefid>
<originator>pbx</originator></stopdatapath></xml>

03/10/2002 12:09:00 - I:TCP:<xml><stopdatapath><iocrossrefid>5697</
iocrossrefid>
<originator>pbx</originator></stopdatapath><invokeID>61</invokeID></
xml>

03/10/2002 12:09:06 - I:TCP:<xml><StopDataPathResult><InvokeID>61</In-
vokeID>nodata
</StopDataPathResult></xml>
```


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Module - eFR

ATTENTION
Due to the ongoing development of the DECT Messenger product suite, some modules that provide additional functionality may become available after the initial release of DECT Messenger 4.0.

The following modules are described in this NTP but are not available at initial General Availability.

- eFR
- eLICENSE
- eLOCATION
- eSMS
- eSNMP
- eVBVOICE

The eFR module is an add-on module and is licensed separately through the eLICENSE module. Some of the modules listed in this attention box are available only on a site-specific basis.

Introduction

Module eFR is a Windows-based software module that monitors a number of items.

The letters FR in Module eFR stand for fault reporting. The eFR module can run standalone or can run in an environment powered by DECT Messenger.

When DECT Messenger infrastructure is available, additional functionality becomes available.

Basic overview

The eFR module consists of two major parts: monitoring and notification.

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Overview of monitoring

The monitoring section covers four items.

- OM section

  The OM section is not applicable for traditional and SIP DECT systems.

- DISK section

  The DISK section verifies the state of a hard disk drive and notifies you on:

  — whether the disk drive is ready or not,

  — how much disk space is available.

  The status information is compared with a previous run for the same drive. You are notified if different information is found. You are notified when the drive is not ready and you are also notified when the drive is ready.

- PING section

  The PING section verifies if the PING command is successful in finding a destination address. For the destination addresses, you can enter:

  — The loopback adapter addresses or local IP addresses to verify local TCP stack and network resources.

  — A remote IP addresses to ensure that the network is responding on ICMP level.

  The status is compared with a previous run for the same destination. You are notified if different information is found. You are also notified when the PING is not responding. You are notified when the PING reestablishes a response.

- NETSTAT section

  The NETSTAT section verifies if a TCP Server is in a "listening" state, by determining whether a defined port has a socket in a "listening" state. For example, when an SMTP server is present "listening" on socket 25, it can be verified if a socket is "listening" for inbound connections or not.

  Similar tests are possible for all kinds of TCP Servers on well known ports, such as Telnet 23, HTTP 80, HTTPS 443, and so on, or user defined ports. It is also possible to verify that a TCP connection is established on a predefined port.

  Typical usage verifies that a connection that needs to be established continuously is available. The status is compared with a previous run for the same port. You are notified if different information is found. You are notified when the socket is no longer "listening" or established, and you are notified when the socket returns "listening" or established.

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Overview of notification

The notification part covers the following items.

- The SMTP destinations refer to the notification based upon e-mail by means of SMTP protocol. SMTP destinations requires an e-mail server infrastructure that is configured to support inbound SMTP connections originated from the eFR module. Depending on the e-mail infrastructure, you may need to configure the e-mail server to enable SMTP, allow inbound SMTP connections from the IP address where eFR runs, and allow relaying of e-mail request to defined destinations.

  You can configure the SMTP notification to send notification messages when changes occur in the state of monitoring items, such as DISK, NETSTAT, PING, start of error condition, and resume of normal condition.

- The SNMP destinations refer to notification based upon the SNMP protocol. In SNMP destinations, SNMPv1 traps can be sent based upon the UDP protocol stack. Since UDP protocol is datagram oriented, SNMPv1 traps can be sent even if the SNMP receiver infrastructure is not in place on the destination system. When the SNMP receiver infrastructure is not in place on the destination system, the trap is unprocessed. The intended use is oriented towards an infrastructure capable of receiving SNMPv1 traps and performing further actions.

  — The DECT Messenger suite features a module eSNMP that is optimized for this functionality. DECT Messenger can receive the SNMPv1 trap and reliably process it, through several notification channels, including DECT Messaging, SMS messaging, Interactive Voice Response, discrete contacts, e-mail, and so on. In addition, the software allows detecting if message reaches its destination and optionally needs end-user confirmation. DECT Messenger can retry and escalate to alternative destinations.

- The SMS destinations refer to notification based upon SMS messaging to mobile phones.

  — SMS destinations requires at least the SMS_service engine and a supported GSM box with a SIM card. You can add SMS destinations with such an infrastructure to run in stand-alone mode, or as part of an existing DECT Messenger infrastructure.

- NET destinations refer to the notification based upon named pipes transport towards the messenger service that is part of the Windows operating system.

  — The functionality of NET destinations is similar to the NET SEND command found in the Windows operating system. NET destinations allows you to send a Windows pop-up message

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to a Windows PC. The depending messenger service must be enabled and active on the destination system, and all prerequisite conditions for named pipes messaging applies.

Install module eFR

Follow the steps in the next procedure to install the software.

Procedure 68
Installing module eFR

Step	Action
1	Double-click the **EXE** files delivered by Nortel.
2	Accept all defaults to install the software. After installation, a number of items ARE installed.

```
C:\Program Files\Messenger@Net\Exe\eFR.exe
C:\Program Files\Messenger@Net\Exe\eFR.xml
C:\Program Files\Messenger@Net\Mdb\eFR.mdb
C:\Program Files\Messenger@Net\Exe\MSWINSCK.OCX
C:\Program Files\Messenger@Net\Exe\MSWINSCK.OCX
C:\Program Files\Messenger@Net\Exe\TABCTL32.OCX
C:\Program Files\Messenger@Net\Exe\MSCOMCTL.OCX
C:\Program Files\Messenger@Net\Pdf\Module_eFR.pdf
C:\Program Files\Messenger@Net\Reg\readme.txt
C:\Program Files\Messenger@Net\Reg\eFR.reg
```

--End--

Launch module eFR

Follow the steps in the next procedure to launch module eFR.

The eFR module is implemented as a application and not as a service.

Procedure 69
Launching module eFR

Step	Action
1	Logon to your PC. Implementation as an application means you launch the EXE file after logon on the PC.
2	Create a shortcut to the file **eFR.exe**, for example

C:\Program Files\Messenger@Net\Exe\eFR.exe

3	Drag the shortcut to the Startup menu of the user that logs on to the computer.

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4 Configure an automatic logon (recommended).

Your ability to configure an automatic logon depends on your security policy. When you have automatic logon, after a power failure the PC restarts and logs on automatically.

Do not logoff the desktop as this ends the monitoring application.

--End--

License module eFR

The module eFR is a licensed software module. The module eFR cannot be copied without valid agreement from Nortel. A software key is required to launch the program. If you do not have a software license key, the following window appears.

Figure 100
Software license key required

eFR - SOPHO Messenger@Net
License key is invalid for this system.
OK
Cancel
Please contact you software representative and order a licence key for Messenger@Net module eFR.
The software will be registered to:
NEC Philips Unified Solutions.
NEC Philips Unified Solutions.
76487-641-3119356-23175.
You may be asked to provide the info listed below:
Computer name BENB121027.
Serial number 230464-584F-OEM-A5D8.
MAC address 00 15 C5 07 5B 4C.
Processor x86 Family 6 Model 13 Stepping 8.
Enter the license key below and press OK to continue.

Contact Nortel to obtain an evaluation or a permanent key for using the software.

Configure module eFR

The module eFR is configured using an XML file.

Follow the steps in the next procedure to configure module eFR.

Procedure 70
Configuring module eFR

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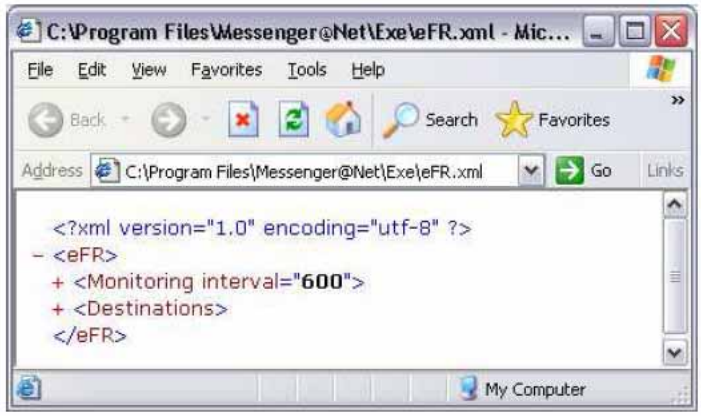
Step	Action
1	Browse to the directory **C:\Program Files\Messenger@Net\Exe**.
2	Double-click on the file **eFR.xml**. You can use Microsoft Internet Explorer to access files with XML extensions. These XML files must have the correct syntax or XML cannot be opened by Internet Explorer and results in a failure of module eFR.



--End--

Destinations

Destinations planning

Follow the steps in the next procedure for destinations planning.

Procedure 71
Planning destinations

Step	Action
1	Determine what notification methods to use. Notification methods include technologies such as the following. • e-mail • windows popup • SMS message to mobile GSM phone • SNMPv1 trap
2	Check what prerequisite actions and infrastructure are needed to make the destinations operational.

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Consultant services are available to assist in this process.

For some transport mechanisms you can depend on other parties and people, for example the administrator of the e-mail infrastructure.

Other transport mechanisms can require you to perform actions in the destination site, for example for NET SEND, the messenger service needs to be activated in the target PC.

3 Gather a list of destination users or destination peripherals with specific information to uniquely address the destination device.

For example, for e-mail users you need the e-mail address of the target user and for SMS message, you need the extension number of the mobile GSM phone.

--End--

Destinations configuration

Follow the steps in the next procedure to configure destinations.

Procedure 72
Configuring destinations

Step	Action
1	Define the destinations in the **Destinations** section of the eFR.xml file. The destinations section starts with the tag <Destinations> and ends with the closing tag </Destinations>. The following figure shows sample destinations.

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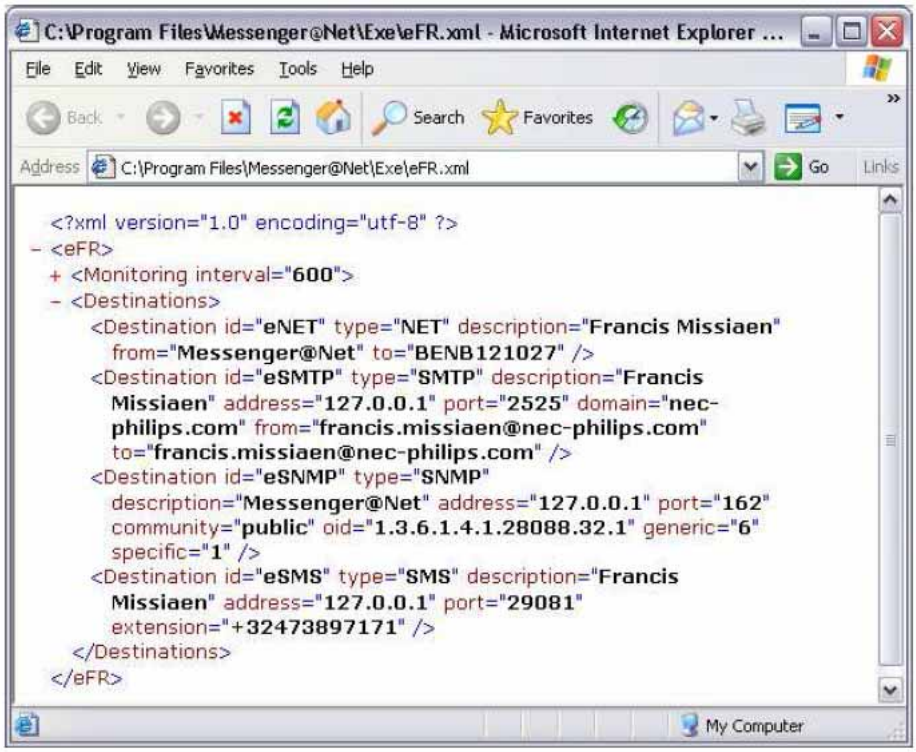

You can use the windows delivered with Notepad or Wordpad accessories maintain the XML file.

On the internet, a number of free XML editors are available. These tools typically feature syntax checking, colored editing, and advanced editing features including copy and pasting of nodes. You can download the file XmlNotepad.msi (XML Notepad 2007) on the Microsoft web site.

2 Ensure that every destination has a unique value for the parameter id.

In the sample file in the previous figure, the id values are eNET, eSMTP, eSNMP, eSMS, and so on.

The parameter id must be unique.

You can use identifiers that are more meaningful to you, such as your name, for example, Francis Missiaen – e-mail or Francis Missiaen – sms.

3 Ensure that each destination has a unique value for the parameter type.

The current release supports the following values for parameter types,

- NET
  NET is used with NET SEND technology when you generate

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a Windows pop-up message on a destination PC with a Windows operating system.

- SMS
  SMS is used with SMS technology to send a SMS message to a destination mobile GSM phone.
- SMTP
  SMTP is used when sending an e-mail message by means of an SMTP enabled mail server infrastructure, resulting in delivery of an e-mail message to the inbox of the destination addressee.
- SNMP
  SNMP is used when sending SNMPv1 trap to a destination SNMP trap receiver.

--End--

Depending of the selected notification type, define additional parameters as needed. Typically, additional parameters define the remaining values that are specific to the selected transport mechanism, and contain information to identity the destination user or device, as well as parameters that define the intermediate infrastructure.

The following Destination types are described in this chapter.

- Destinations type NET
- Destinations type SMS
- Destinations type SMTP
- Destinations type SNMP

Destinations type NET

The following figure illustrates Destinations type NET.

Figure 101
Destinations type NET

```
<Destination id="eNET" type="NET" description="Francis Missiaen"
from ="Messenger@Net" to="BENB121027" />
```

The following parameters are specific to NET.

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- The parameter description refers to the name of the destination user, and allows you to assign a user name. For example, you can enter the first name and last name.
- The parameter "from" is part of the resulting Windows pop-up message and is shown to the user. The parameter "from" allows the destination user to identify what user or application has sent the pop-up message. For example, you can use DECT Messenger.
- The parameter "to" is the most important parameter as this parameter defines the destination system used by the embedded NET SEND functionality. The parameter "to" must be the correct PC name of the destination user.

  As a suggestion, open the command window on the target system and use the echo %computername% command to find out the value that needs to be specified in the field "to". For example, In the figure, the resulting value is BENB121027.

Figure 102
Parameter *to*

Destinations type SMS

The following figure illustrates Destinations type SMS.

Figure 103
Destinations type SMS

```
<Destination id="eSMS" type="SMS" description="Francis Missiaen"
address="127.0.0.1" port="29081" extension="+32473897171" />
```

The following parameters are specific to SMS.

- The parameter "description" refers to the name of the destination user, and allows you to assign a user name. For example, you can enter the first name and last name of the user.
- The parameter "address" refers to the IP address of the system that runs the SMS_service process. When the service runs on the same system, use the loopback value 127.0.0.1.
- The parameter "port" refers to the port number that is configured in the SMS_service process for inbound SMS request.

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The default value 29081 matches most installations. Refer to the SMS_service system administrator.

- The parameter "extension" is the most important parameter, as "extension" defines the destination peripheral of the SMS notification. Format "extension" starting with + and country code, which results in a valid mobile GSM phone. For example, in Belgium a valid mobile extension number is formed starts with +32 followed by the remaining numbers of the mobile GSM phone.

Destinations type SMTP

The following figure illustrates Destinations type SMTP.

Figure 104
Destinations type SMTP

```
<Destination id="eSMTP" type="SMTP" description="Francis Missiaen"
address="127.0.0.1" port="25" domain="nec-philips.com"
from="francis.missiaen@nec-philips.com" to="francis.missiaen@necphilips.
com" />
```

The following parameters are specific to SMTP.

- The parameter "description" refers to the name of the destination user, and allows you to assign a user name. For example, enter the first and last name of the user.
- The parameter "address" refers to the e-mail system IP address that runs the SMTP Server process. When the e-mail server supporting SMTP runs on the same system, use the loopback value 127.0.0.1. Contact your e-mail server administrator to obtain this value.
- The parameter "port" refers to the port number configured in the SMTP server for inbound SMTP requests. The default value 25 matches most installations. Contact the e-mail server system administrator to obtain this value.
- The parameter "domain" refers to the e-mail domain name configured on the SMTP server. In most cases this matches the characters after the @ of the company local e-mail addresses. Contact the e-mail server administrator to obtain this value.
- The parameter "from" refers to an e-mail address that acts as originator of the e-mail address. In many cases, the syntax matches user@domain.com. In some environments, the domain must match the existing domain or be a registered domain. Contact the e-mail server administrator to obtain this value. Nortel recommends that you

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use an existing e-mail address so people can respond to the e-mail if necessary.

- The parameter "to" is the most important parameter and refers to the e-mail address of the destination e-mail user. Depending on relay settings of the e-mail server infrastructure, this can be limited to an internal e-mail user only, which limits you to send e-mail only to users of the same domain. The parameter "to" can also be an external e-mail user, which allows you to send e-mail to users of any domain. Contact the e-mail infrastructure administrator to discuss the parameters and to determine if an adjustment of the e-mail server is necessary.

Destinations type SNMP

The following figure illustrates Destinations type SNMP.

Figure 105
Destinations type SNMP

```
<Destination id="eSNMP" type="SNMP" description="Messenger@Net"
address="127.0.0.1" port="162" community="public"
oid="1.3.6.1.4.1.28088.32.1" generic="6" specific="1" />
```

The following parameters are specific to SNMP.

- The parameter "description" refers to the name of the destination party, and allows you to assign a destination system name. For example, you can enter the name of the SNMP receiving infrastructure.
- The parameter "address" refers to the SNMP server IP address. Contact the SNMP receiving infrastructure administrator to obtain this value.
- The parameter "port" refers to the SNMP server port number. The default value usually used is the well-known port number 162. Contact the SNMP receiving infrastructure administrator to obtain this value.
- The parameter "community" identifies the community, for example public.
- The parameter "oid" identifies the enterprise OID, for example 1.3.6.1.4.1.28088.32.1.
- The parameter "generic" identifies the generic trap identifier, for example 6.
- The parameter "specific" identifies the specific trap identifier, for example 1 TIP.

Contact the administrator of the SNMP trap receiver infrastructure. In many cases this is the DECT Messenger administrator when the eSNMP module is used to process received SNMPv1 traps.

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Monitoring

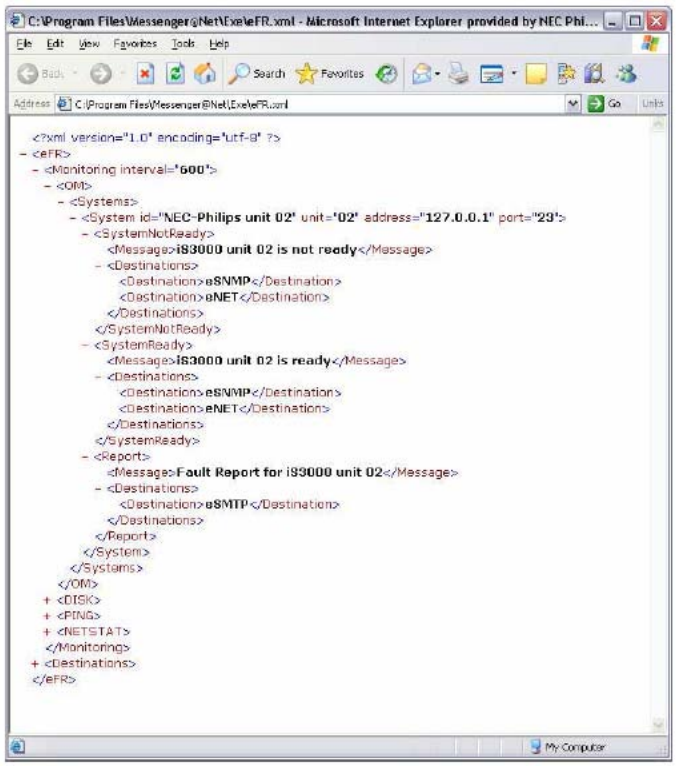
The monitoring section is defined in the eFR.xml file.

The monitoring section starts with the tag </Monitoring>. Within the tag are the following subsections.

- OM section is not applicable for traditional and SIP DECT systems
- DISK is available starting with <DISK> and ending with </DISK>
- PING is available starting with <PING> and ending with </PING>
- NETSTAT is available starting with <NETSTAT> and ending with </NETSTAT>

The following figure illustrates the monitoring section and subsections.

Figure 106
Example of monitoring section and subsections



The parameter interval, with a default value of 600, specifies the frequency at which the monitoring process takes place. When a value of 600 is specified, a delay of 600 seconds takes place between the last monitoring action and the next monitoring action. The eFR module captures information about the configured items roughly every 10 minutes.

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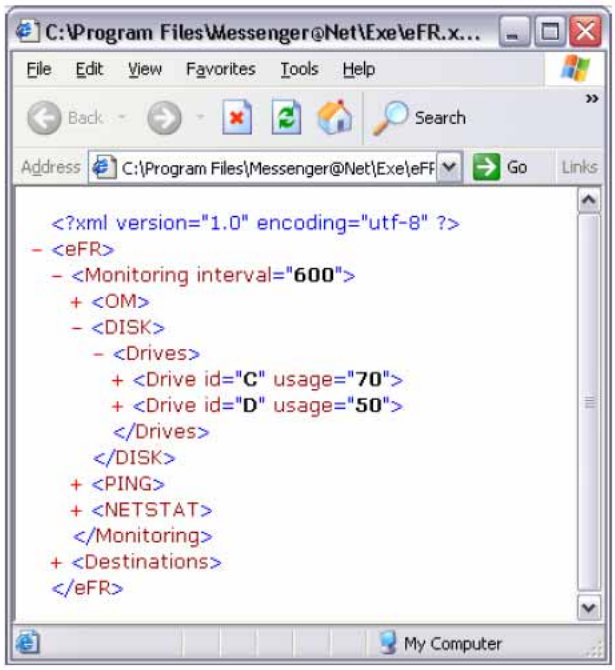
- The default value is 600 seconds
- The minimum value is 60 seconds. Every minute a verification cycle takes place. When a value smaller than 60 is configured, the system adjusts it to 60 seconds
- The maximum value is 86400 seconds, so once a day a verification cycle takes place. When a larger value than 86400 is configured, the system will adjust to 86400 seconds.

Note: The processing cycle takes some time, for example PING to a large number of systems that are not responding increases processing time. Since the interval effects the time between ending the previous verification and starting a new verification, the exact frequency is somewhat larger than the specified interval, depending on the processing time.

Monitoring type DISK

The monitoring of disk drives is configured through the section in the XML file shown in the next figure.

Figure 107
Monitoring type DISK



The opening tag <DISK> and the closing tag </DISK> provide space for configuring the drives that must be monitored. You can define each drive that needs to be monitored in the section between </Drives>.

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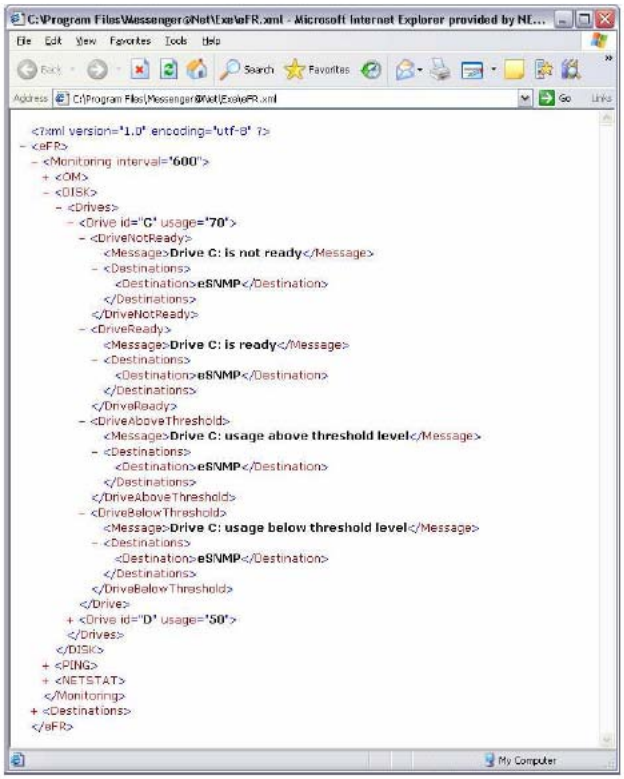
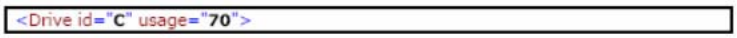
Figure 108
Define drives for monitor type DISK



The line shown in the following figure is the opening tag for a drive definition.

Figure 109
Opening tag for a drive definition



You must define two parameters.

- Create the parameter "id" as a single upper case character that represents the drive name to be monitored. For example, entering C as the "id" indicates that the C: drive is monitored. This character is typically the drive letter you assign to the hard disk drive.
- Create the parameter "usage" as a numeric value that specifies a percentage of allowed disk usage. For example, enter 70 to indicate that up to 70% of the hard disk can be used. When less than 30% free capacity is available, you must notify users.

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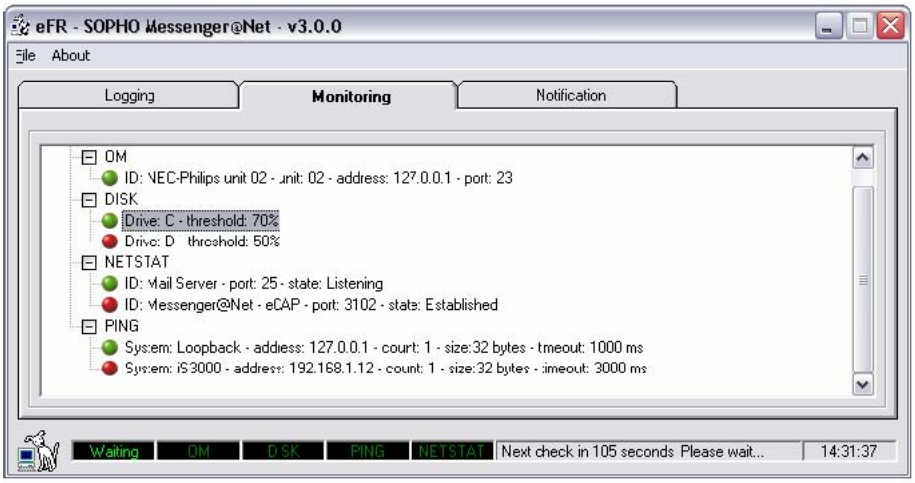
The window in the following figure shows a green bullet next to the C drive to indicate that the required conditions are met. The window shows a red bullet next to the D drive to indicate that for that drive, the conditions are not met. D drive is not ready or has reached the defined usage.

Figure 110
Required conditions met for monitor type DISK


eFR - SOPHO Messenger@Net - v3.0.0
File About
Logging
Monitoring
Notification
OM
ID: NEC-Philips unit 02 - unit: 02 - address: 127.0.0.1 - port: 23
DISK
Drive: C - threshold: 70%
Drive: D threshold: 50%
NETSTAT
ID: Mail Server - port: 25 - state: Listening
ID: Messenger@Net - eCAP - port: 3102 - state: Established
PING
System: Loopback - address: 127.0.0.1 - count: 1 - size:32 bytes - timeout: 1000 ms
System: IS3000 - address: 192.168.1.12 - count: 1 - size:32 bytes - timeout: 3000 ms
Waiting
OM
DISK
PING
NETSTAT
Next check in 105 seconds Please wait...
14:31:37

You define the message and the destinations to be informed in the following circumstances.

- When the drive is not ready

Figure 111
Drive not ready

```
<DriveNotReady>
```

- When the drive is ready again

Figure 112
Drive ready

```
<DriveReady>
```

- When the drive is above threshold usage level

Figure 113
Drive above threshold usage level

```
<DriveAboveThreshold>
```

- When the drive is below threshold usage level

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Figure 114
Drive below threshold usage level

```
<DriveBelowThreshold>
```

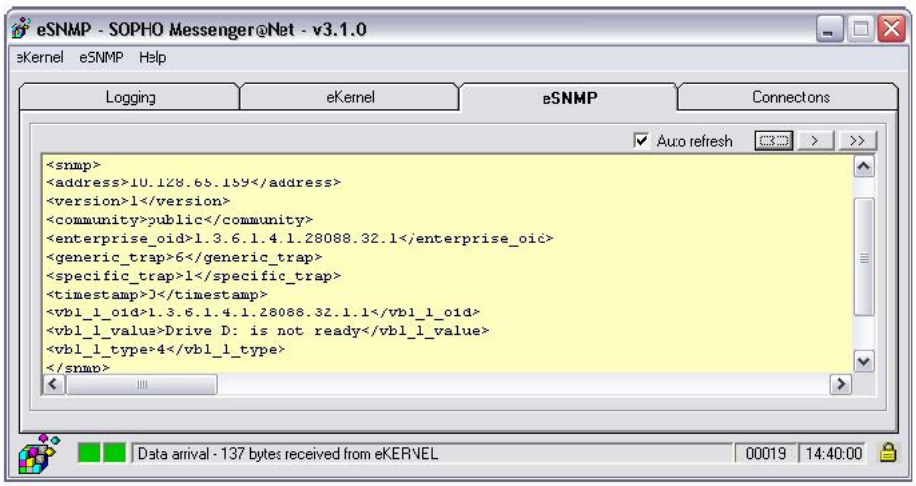
- When the D drive is not ready to be sent as SNMPv1 trap to an SNMP server

Figure 115
Drive not ready to be sent as SNMPv1 trap

```
<Destination id="eSNMP" type="SNMP" description="Messenger@Net"
address="127.0.0.1" port="162" community="public"
oid="1.3.6.1.4.1.28088.32.1" generic="6" specific="1" />
```

The following figure shows the message received by the destination device, implemented in DECT Messenger module eSNMP. The window shows that an SNMPv1 trap is received. The varbind 1 parameter contains the message.

Figure 116
Message received by destination device



Monitoring type PING

You configure the monitoring of PING through the section starting with tag <PING> and ending with closing tag </PING>. This area contains a starting tag <Systems> and ending tag </Systems>.

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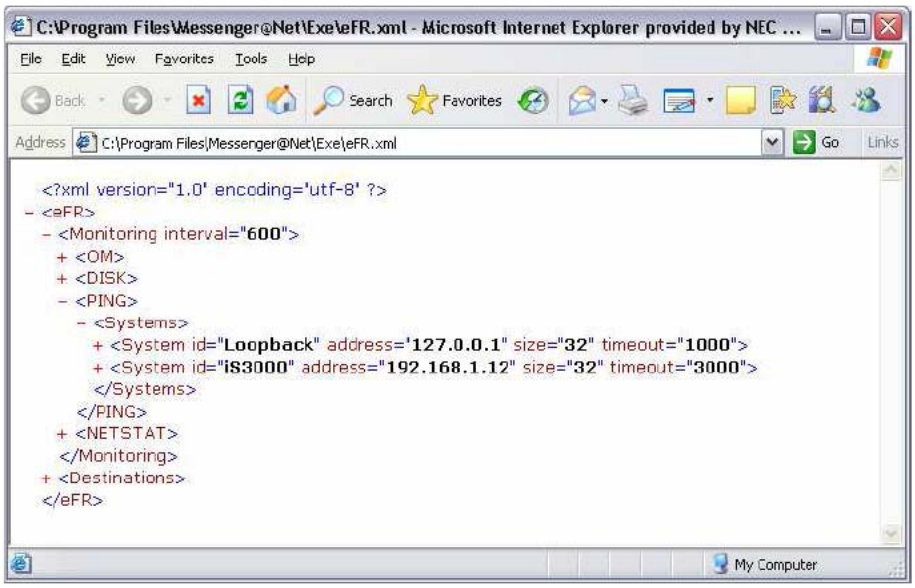
Adding a <System> definition for each system that you want to monitor. The window in the following figure shows two definitions, one for address 127.0.0.1 and another for address 192.168.1.12.

Figure 117
Monitoring type PING configuration



The definition of a system that needs to be monitored with PING is done using a <System> line.

Figure 118
Monitoring type PING definition

```
<System id="Loopback" address="127.0.0.1" size="32" timeout="1000">
```

The following parameters are available.

- Define the parameter id with a unique identifier of the monitored item. All items must have a unique identifier. For example, Lookback is an identifier. Nortel recommends that you specify a name meaningful to you to make future maintenance easier. For example, specify names such as Mail Server, Firewall, Router, IP DECT, and so on.
- Define the parameter "address" to specify the IP address used in the PING test using ICMP protocol.

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- Define the parameter "size" to indicate the size of the ICMP packet during the PING test using ICMP protocol. A default value of 32 bytes meets most requirements.
- Define the parameter "timeout" to indicate the number of milliseconds to wait for a response. The default value is 1000. This means you can expect feedback on the PING command within 1 second. For some environments, 1000 is too small a number, and depending on your network topology and system resources, a larger value can be appropriate.

Nortel recommends limiting the definition of system to systems that must be verified and are expected to respond. Do not define an excessively long timeout. The larger the number of the system and the larger the possible timeout, the less responsive the system. This means that the processing time increases, and the number of verifications decreases.

The following figure shows an example of a definition of a system for PING.

The message to be sent when a system is no longer responding to an ICMP check and the destinations informed are defined in the "NotResponding" section.

The message to be sent when a system resumes responding to an ICMP check and the destinations informed are defined in the "Responding" section.

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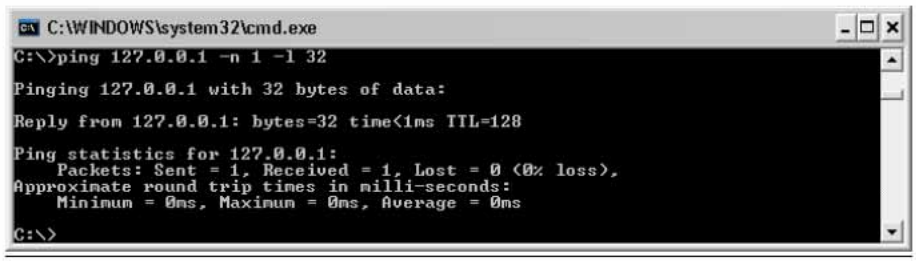
Figure 119
Message sent after ICMP check

```
:
:
<System id="Loopback" address="127.0.0.1" size="32" timeout="1000">
<NotResponding>
   <Message>Loopback adapter is not responding</Message>
   <Destinations>
      <Destination>eSNMP</Destination>
   </Destinations>
</NotResponding>
<Responding>
   <Message>Loopback adapter is responding</Message>
   <Destinations>
      <Destination>eSNMP</Destination>
   </Destinations>
</Responding>
</System>
:
:
```

Note: You can use the PING command to verify the ability to perform an ICMP check prior to defining a system in the eFR.xml configuration.

Figure 120
PING command verifying ability to perform ICMP check



Monitoring type NETSTAT

You can verify the configured list of connections using the NETSTAT monitoring capability. You can verify the TCP server connections in status "LISTENING", and you can verify the TCP client connections in status "ESTABLISHED".

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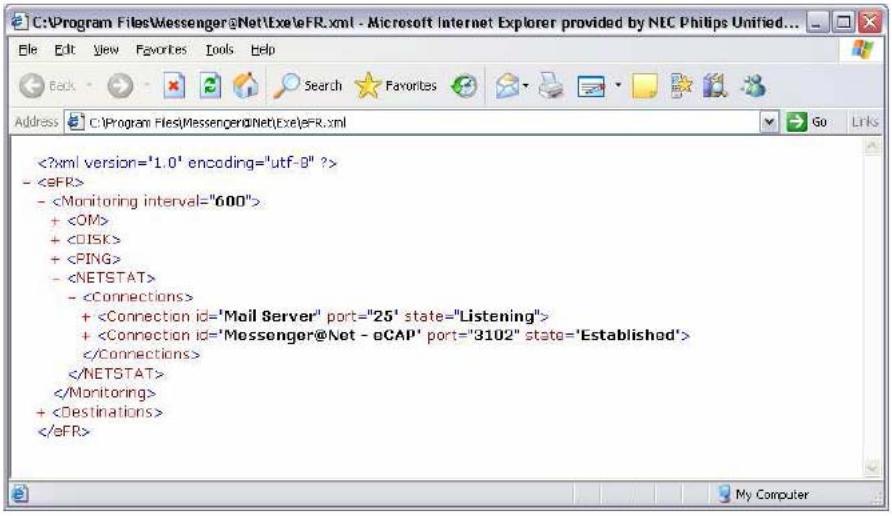
Figure 121
Monitoring type NETSTAT



The configuration for NETSTAT is in the monitoring section starts with the opening tag <NETSTAT> and the closing tag </NETSTAT>. This area contains a subsection starting with opening tag <Connections> and ending with closing tag </Connections>.

Figure 122
NETSTAT connections

```
<NETSTAT>
<Connections>
</Connections>
</NETSTAT>
```

Definition of a TCP server

A sample definition of a connection is shown in the following figure.

Figure 123
TCP server definition

```
<Connection id="Mail Server" port="25" state="Listening">
```

The definition of a connection contains the following parameters.

- Define the parameter id (name) with a unique identifier of the monitored item. For example, value Mail Server defines the

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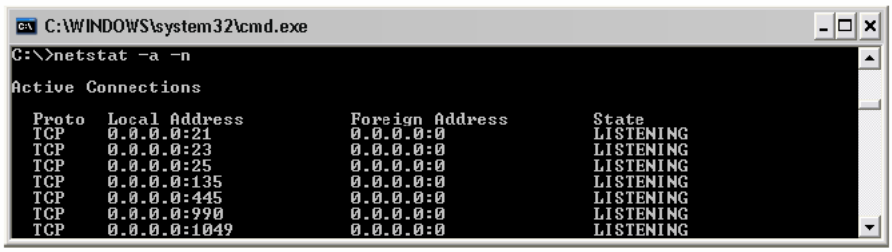
connection. Nortel recommends that you choose meaningful names name for the parameters.

- Define the parameter "port" to identify the port number. For example, use the value 25 specified the port used for SMTP servers.
- Define the parameter "state".
- Define the parameter "Listening" for monitoring TCP Servers.

  A TCP Server is always up and running and in "state" of "listening" on port 25 on a local system that runs the eFR monitoring process.

  Note: You can use the command window to verify the current servers. The command "netstat –a –n" shows a screen similar to the one shown in the following figure. In the figure, a TCP server, in the first column with the value TCP, listening on port 25, in the second column ending with :25, is in the "state" of "listening".

Figure 124
Verify current servers



Note: Important: NETSTAT assumes that TCP servers remain listening.

ATTENTION
Only apply NETSTAT monitoring to TCP Servers that are multiple access socket servers. When a TCP server is a single connection server, the TCP server is connected while it is monitored by NETSTAT.

The following figure shows a more complete definition of a configuration section monitoring the state of TCP Server that is expected to be always in state "listening". The figures illustrates the example of an environment running a local Internet Information Server with SMTP Server component "listening" to default port 25.

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Figure 125
Monitoring the state of the TCP server

If the SMTP Server is stopped by an administrator, the socket no longer is "listening" on port 25 and the message "Mail Server is down" is sent as an SNMPv1 trap to the configured SNMP destination.

Definition of a TCP client

A sample definition of a connection is shown in the following figure. The definition is very similar to the definition of a TCP Server, but the state is "established" instead of "listening".

Figure 126
Definition of a TCP client

The definition of a connection contains the following parameters.

- Define the parameter id which defines the unique identifier of the monitored item. The value Messenger@Net - eCAP in the example defines the connection. You can specify a value of your choice. Nortel recommends that you use a name meaningful to you.
- Define the parameter "port" which defines the port number. For example, the value 3102 specifies a specific port used by DECT Messenger.
- Define the parameter "state". For monitoring TCP Clients, define the value "established".

  It is expected that a TCP Server is always up and running and is in state "connected" on port 3102 with a TCP Client in the local system that runs the eFR monitoring process.

  Note: The specified port is the port on the TCP Server.

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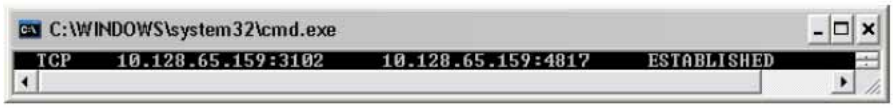
In a TCP client/server connection, a TCP Server listens on a specific port. A client can reside on the same system or on another system, and make a socket connection by specifying the address and the port the server listens to. The following figure illustrates that the server listens on port 3102.

Figure 127
TCP client/server connection

If connection is successful, a connection is established between the client and the server. In a NETSTAT command window, a line appears illustrating that a TCP connection is found on port 3102 with the state ESTABLISHED.

Figure 128
NETSTAT command window



The previous figure shows the client address and port in the third column, 10.1289.65.159:4817. In many environments the client is not bound to a fixed port, and receives a random assigned port number, for example 4817.

The capability of eFR monitoring client connections of NETSTAT is oriented towards application environments, with a persistent socket connection. For example, DECT Messenger is an example of a software suite based upon client/server architecture, where the majority of client modules must be connected permanently with predefined ports on the server. Typically you must monitor the TCP clients (eDMSAPI, eCSTA, eSMS, eCAP…) modules connected to eKERNEL on the configured ports.

Sample e-mail

A sample e-mail is shown in the following figure.

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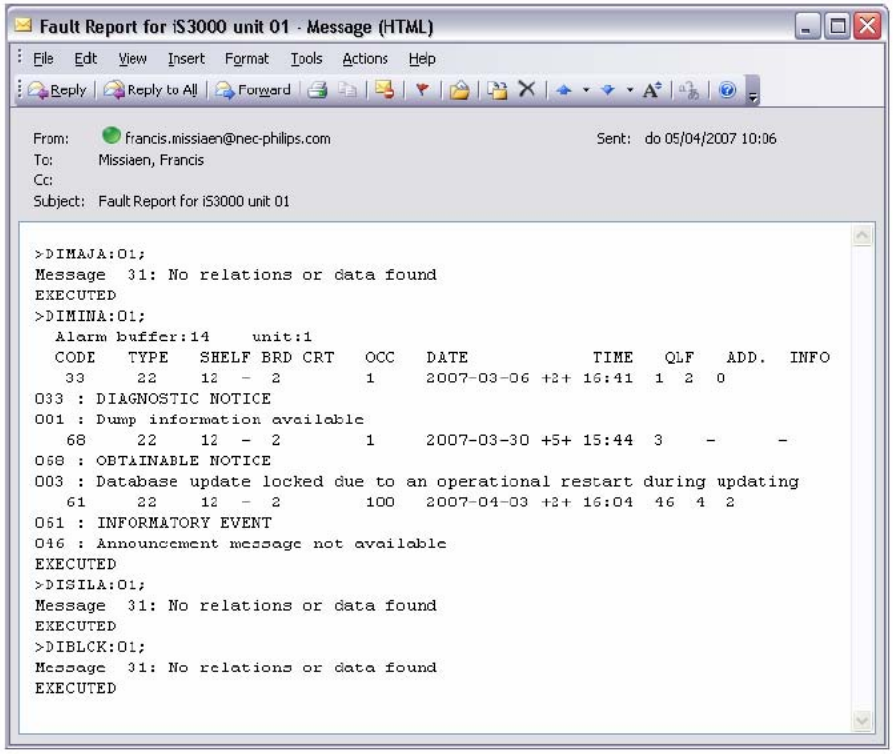
Figure 129
Sample e-mail


Fault Report for iS3000 unit 01 - Message (HTML)
File Edit View Insert Format Tools Actions Help
Reply Reply to All Forward
From: francis.missiaen@nec-philips.com
Sent: do 05/04/2007 10:06
To: Missiaen, Francis
Cc:
Subject: Fault Report for iS3000 unit 01
>DIMAJA:01;
Message 31: No relations or data found
EXECUTED
>DIMINA:01;
Alarm buffer:14 unit:1
CODE TYPE SHELF BRD CRT OCC DATE TIME QLF ADD. INFO
33 22 12 - 2 1 2007-03-06 +2+ 16:41 1 2 0
033 : DIAGNOSTIC NOTICE
001 : Dump information available
68 22 12 - 2 1 2007-03-30 +5+ 15:44 3 - -
068 : OBTAINABLE NOTICE
003 : Database update locked due to an operational restart during updating
61 22 12 - 2 100 2007-04-03 +2+ 16:04 46 4 2
061 : INFORMATORY EVENT
046 : Announcement message not available
EXECUTED
>DISILA:01;
Message 31: No relations or data found
EXECUTED
>DIBLCK:01;
Message 31: No relations or data found
EXECUTED

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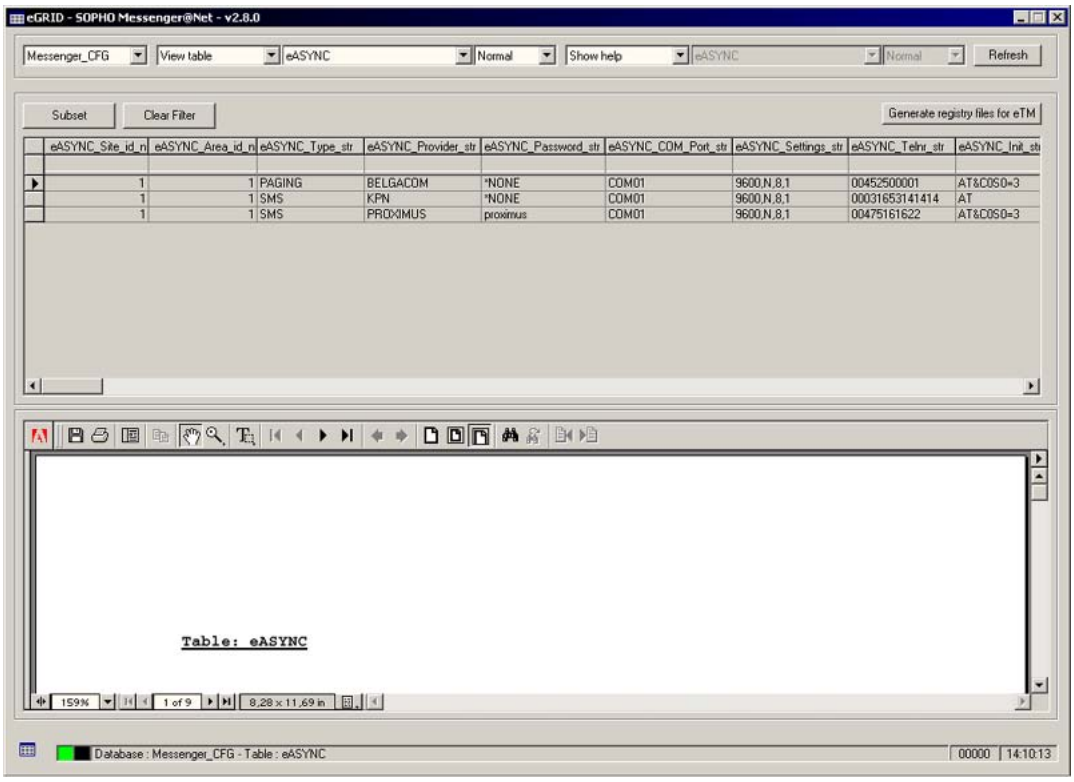
Module - eGRID

The eGRID application gives you a view of the different tables in the databases.

You can start the eGRID.exe application without command line parameters. At startup, the window in Figure 130 "eGRID startup window" (page 389) is shown:

Figure 130
eGRID startup window



Seven drop-down lists are available at the top of the window. From left to right, the functions of these drop-down lists are as follows.

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- Use the first drop-down list, on the far left, to select the Messenger_CFG database or the Messenger_DATA database
- Use the second drop-down list to select one of the following:
  - Perform inquiry functions using the View table
  - Perform maintenance using the Edit table
  - Export a table to a comma separated file using Export to CSV
  - Export to an HTML file using Export to HTML
- Use the third drop-down list to select a table. The available tables are retrieved automatically from the database object
- Use the fourth drop-down list to control the GRID view as follows:
  - Normal uses default view
  - Inverted uses a rotated view
  - Drag and drop to group records in Group
- The fifth drop-down list offers the following choices:
  - None uses a full-screen interface for one table
  - Show help splits the window interface in two halves: the top half is used to access the table, the bottom half is used to show the related PDF-file help information
  - You can select a second table with View another table, which splits the window in two; the upper half is used to access the first table, the lower half is used to access the second table
- The sixth drop-down list is available only if a View another table is specified. Use this list to select the second table.
- Use the seventh drop-down list, on the far right, to modify the view of the second table
  - Normal uses default view
  - Inverted uses a rotated view
  - Drag and drop to group records using Group

The example in Figure 131 "eGRID with Show help mode" (page 391) shows the Show help mode:

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Figure 131
eGRID with Show help mode

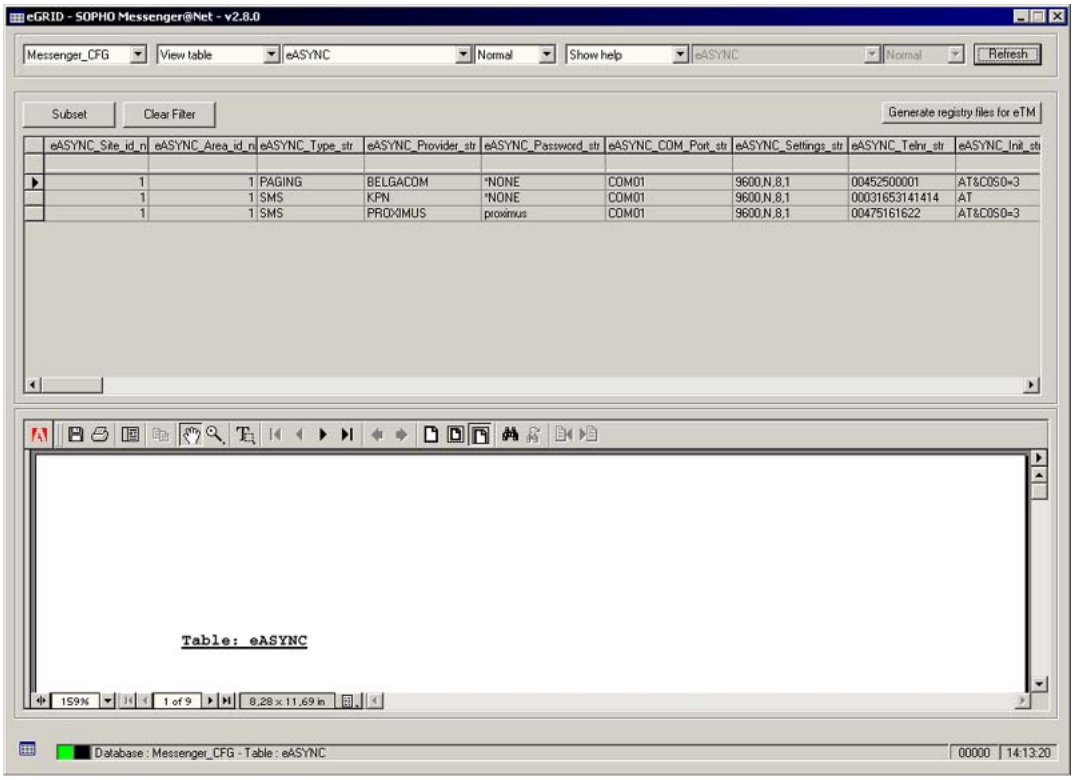

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Figure 132
eGRID with View another table mode

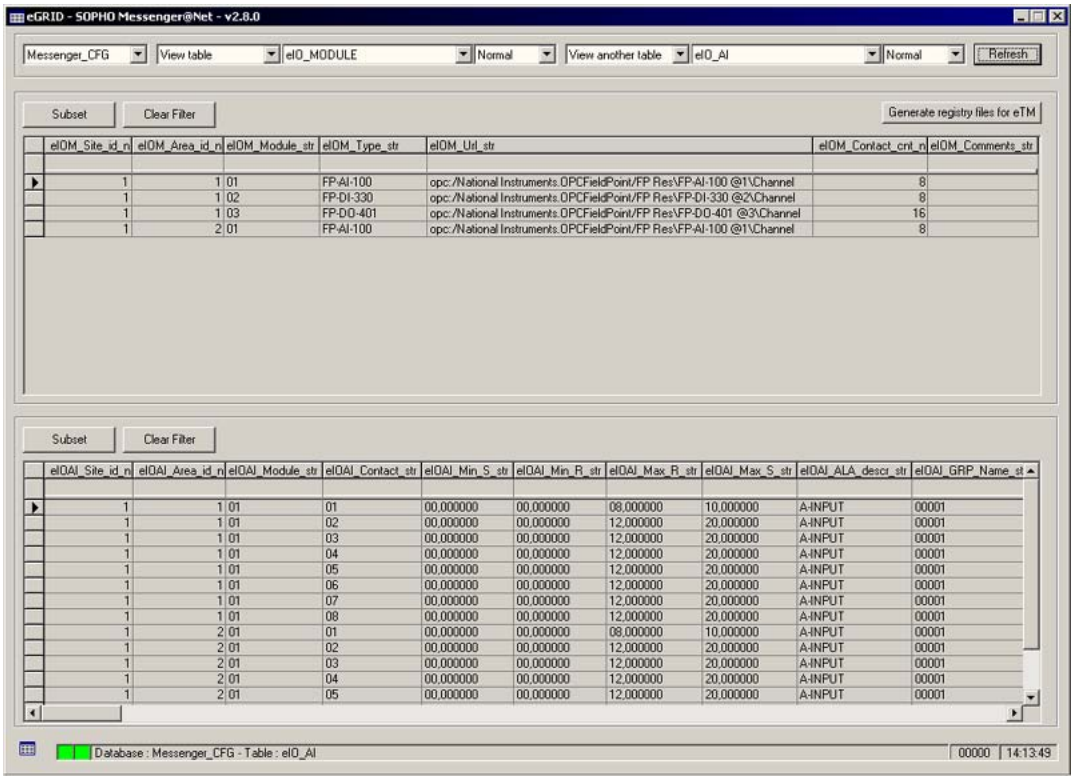
eGRID - SOPHO Messenger@Net - v2.8.0
Messenger_CFG
View table
eIO_MODULE
Normal
View another table
eIO_AI
Normal
Refresh
Subset
Clear Filter
Generate registry files for eTM
eIOM_Site_id_n
eIOM_Area_id_n
eIOM_Module_str
eIOM_Type_str
eIOM_Url_str
eIOM_Contact_cnt_n
eIOM_Comments_str
1 1 01 FP-AI-100 opc://National Instruments.OPCFieldPoint/FP Res\FP-AI-100 @1\Channel 8
1 1 02 FP-DI-330 opc://National Instruments.OPCFieldPoint/FP Res\FP-DI-330 @2\Channel 8
1 1 03 FP-DO-401 opc://National Instruments.OPCFieldPoint/FP Res\FP-DO-401 @3\Channel 16
1 2 01 FP-AI-100 opc://National Instruments.OPCFieldPoint/FP Res\FP-AI-100 @1\Channel 8
Subset
Clear Filter
eIOAI_Site_id_n
eIOAI_Area_id_n
eIOAI_Module_str
eIOAI_Contact_str
eIOAI_Min_S_str
eIOAI_Min_R_str
eIOAI_Max_R_str
eIOAI_Max_S_str
eIOAI_ALA_descr_str
eIOAI_GRP_Name_st
1 1 01 01 00,000000 00,000000 08,000000 10,000000 A-INPUT 00001
1 1 01 02 00,000000 00,000000 12,000000 20,000000 A-INPUT 00001
1 1 01 03 00,000000 00,000000 12,000000 20,000000 A-INPUT 00001
1 1 01 04 00,000000 00,000000 12,000000 20,000000 A-INPUT 00001
1 1 01 05 00,000000 00,000000 12,000000 20,000000 A-INPUT 00001
1 1 01 06 00,000000 00,000000 12,000000 20,000000 A-INPUT 00001
1 1 01 07 00,000000 00,000000 12,000000 20,000000 A-INPUT 00001
1 1 01 08 00,000000 00,000000 12,000000 20,000000 A-INPUT 00001
1 2 01 01 00,000000 00,000000 08,000000 10,000000 A-INPUT 00001
1 2 01 02 00,000000 00,000000 12,000000 20,000000 A-INPUT 00001
1 2 01 03 00,000000 00,000000 12,000000 20,000000 A-INPUT 00001
1 2 01 04 00,000000 00,000000 12,000000 20,000000 A-INPUT 00001
1 2 01 05 00,000000 00,000000 12,000000 20,000000 A-INPUT 00001
Database : Messenger_CFG - Table : eIO_AI
00000
14:13:49

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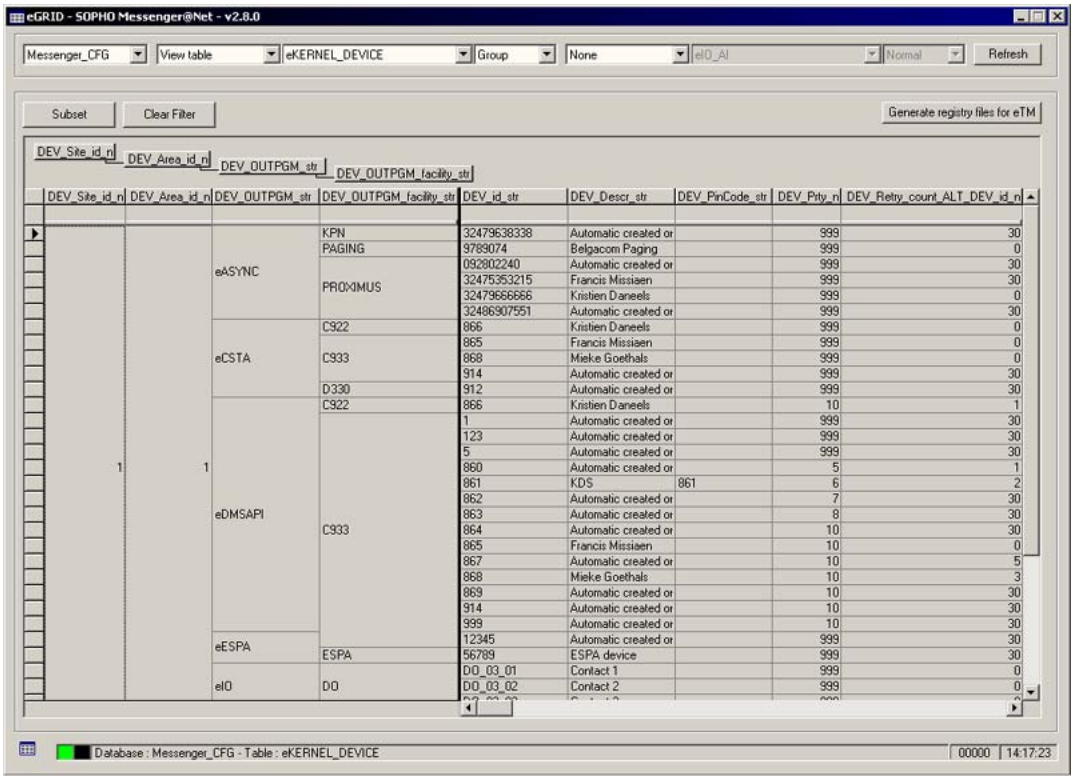
Figure 133
eGRID grouping functions



Because eGRID is the preferred access method for maintenance, an extra functionality is implemented to optimize flexibility. This functionality is referred to as Data Filtering and is handled through the command buttons Subset, Clear filter, and an entry field between the column heading and the first row.

Figure 134 "eGRID Data Filtering" (page 394) illustrates the usage of Data Filtering. This example shows a subset of the devices of site 3, area 1a, and output program eDMSAPI in the table eKERNEL_DEVICE. You can clear the subset criteria with the Clear Filter button, by selecting another table, or by selecting Refresh.

Note: Incomplete information is displayed when you use Data Filtering, because only the records with matching criteria are shown.

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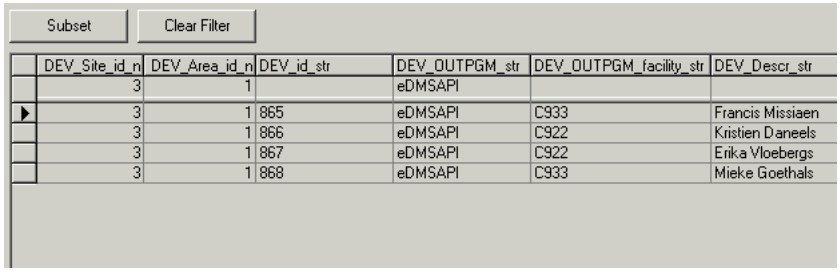
Figure 134
eGRID Data Filtering



Look at the column header to find out what data type the field has. Because the filtering function is based upon SQL instructions, you must specify subset data that results in valid SQL grammar:

- Selecting partial data (omitting training characters) is valid only for string fields with the extension _str. For example, DEV_OUTPGM_str can be part of a subset with e, eD, eDM, and so on. Boolean fields with extension _b and numeric fields with extension _n cannot be part of a subset with partial values and must be fully qualified.
- You must not specify special characters.
- String values can also be subset with syntax %EN, which select *SEND. Specify % to accept generic leading characters.

Specifying invalid filter criteria can result in errors such as the one shown in Figure 135 "Invalid filter criteria error" (page 394).

Figure 135
Invalid filter criteria error

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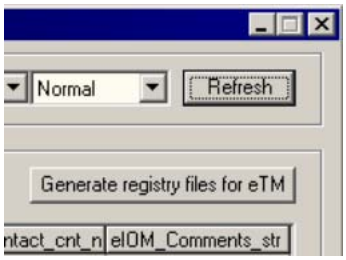
Figure 136
Accessing Generate registry files for eTM



Click **Generate registry files for eTM** to export the configuration for the module eTM, also referred to as Task Manager.

ATTENTION
Ensure the eGRID module is not made available for unauthorized access. Remove the shortcut where applicable. The eGRID module provides direct access to the tables in the database. There is no password protection on this module.

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Module - eIO

Overview

The eIO module is a stand-alone application that communicates with eKERNEL. The module is capable of controlling and measuring Distributed I/O peripherals of National Instruments. eIO offers support for analogue input, digital input and digital output.

See “Install PC - Step 3 - National Instruments” (page 111) for a detailed explanation of installation and configurations issues of the modules, and the supporting Measurement Studio components (FieldPoint Explorer and OPC Server).

All these documents contain important information that is required to understand and configure the eIO module. To avoid duplicate information, the concepts are not repeated in this chapter.

Startup

You must start the eIO application by means of a shortcut that uses the syntax described in Figure 137 "Parameters in the shortcut for eIO" (page 397).

Figure 137
Parameters in the shortcut for eIO

```
"C:\SOPHO Messenger@Net\Exe\eIO.exe"
/Site:3
/eKernel address:*LOCAL
/eKernel port:3108
/Log drive:C
```

The following parameters are required:

- **Site**

  Defines the site identifier and is used by eKERNEL to verify the identifier with the eKERNEL_TCPCLIENT and eKERNEL_INPGM

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settings. This identifier is also required so that eKERNEL can respond with the appropriate configuration settings.

- **eKernel address**

  Defines the IP address of eKERNEL. Use the special value *LOCAL to refer to the same address as the system where eIO resides. In a single-computer environment the *LOCAL value is usually specified, because eKERNEL and eIO both share the same network adapter. When eIO is running on a different computer, the IP address of the eKERNEL must be specified.

- **eKernel port**

  Refers to the port number eKERNEL listens to for that specific eIO instance. This port is defined in the eKERNEL_TCPCLIENT table.

- **Log drive**

  Specifies the drive letter where logging files must be stored.

When all parameters are correctly specified, the eIO contacts the eKERNEL application, producing the log information shown in Figure 138 "Logging information for eIO" (page 398).

Figure 138
Logging information for eIO

```
25/10/2001 10:41:35 -
S:INF:Application eIO - SOPHO Messenger@Net - v2.0.6 started with param-
eters /Site:3 /eKernel address:*LOCAL /eKernel port:3108 /Log drive:C

25/10/2001 10:41:36 -
S:INF:TCP local port 01183 connected with remote port 03108 (eKERNEL)
25/10/2001 10:41:36 -
```

Once connected to eKERNEL, the eIO module requests its configuration. This is performed through a configuration request. The eKERNEL fetches the configuration from the IO_MODULE, eIO_AI, eIO_DI and eIO_DO tables and responds with all relevant parameters that are needed for eIO to continue processing. Figure 139 "eIO configuration request and response" (page 399) shows the configuration request and the response eKERNEL sends back.

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Figure 139
eIO configuration request and response

```
<xml>
<cfgrqs>
<appl>eIO</appl>
<site>3</site>
</cfgrqs>
</xml>
```

```
<xml>
<cfgrpy>
<manufacturer>NATIONAL INSTRUMENTS</manufacturer>
<model>*BASE</model>
<mod_cnt>3</mod_cnt>
<mod_01>FP-AI-100</mod_01>
<url_01>opc:/National Instruments.OPCFieldPoint/FP Res\FP-AI-100
@1\Channel</url_01>
<cnt_01>8</cnt_01>
<mod_02>FP-DI-300</mod_02>
<url_02>opc:/National Instruments.OPCFieldPoint/FP Res\FP-DI-330
@2\Channel</url_02>
<cnt_02>8</cnt_02>
<mod_03>FP-DO-401</mod_03>
<url_03>opc:/National Instruments.OPCFieldPoint/FP Res\FP-DO-401
@3\Channel</url_03>
<cnt_03>16</cnt_03>
<ai_01_01_min_s>00,000000</ai_01_01_min_s>
<ai_01_01_min_r>00,000000</ai_01_01_min_r>
<ai_01_01_max_r>12,000000</ai_01_01_max_r>
<ai_01_01_max_s>20,000000</ai_01_01_max_s>
:
:
<ai_01_08_min_s>00,000000</ai_01_08_min_s>
<ai_01_08_min_r>00,000000</ai_01_08_min_r>
<ai_01_08_max_r>12,000000</ai_01_08_max_r>
<ai_01_08_max_s>20,000000</ai_01_08_max_s>
<log_path>C:\SOPHO Messenger@net</log_path>
<log_days>1</log_days>
</cfgrpy>
</xml>
```

When the configuration is received, the eIO updates the configuration information on the **Connections** tab, as shown in Figure 140 "eIO Connections update" (page 400). During this time, the eIO is temporarily less responsive to user input. This is due to the large number of OPC Server connections that take place at startup time.

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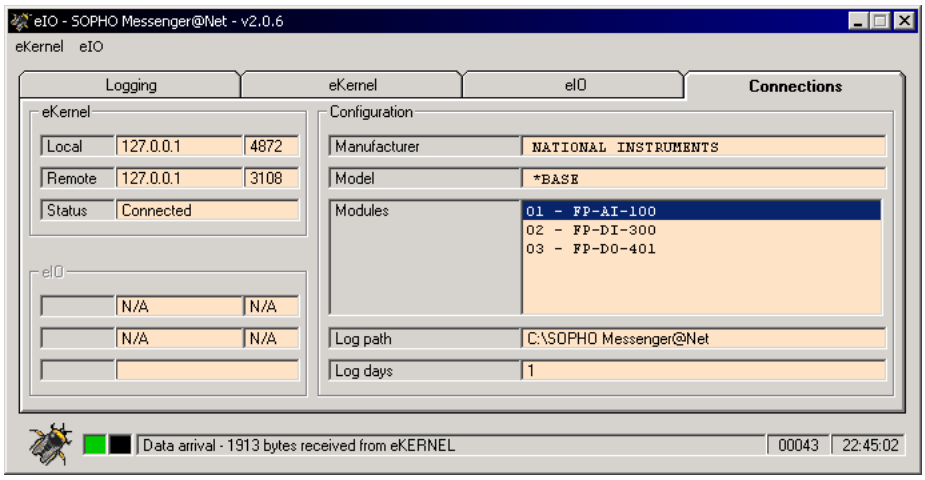
Figure 140
eIO Connections update



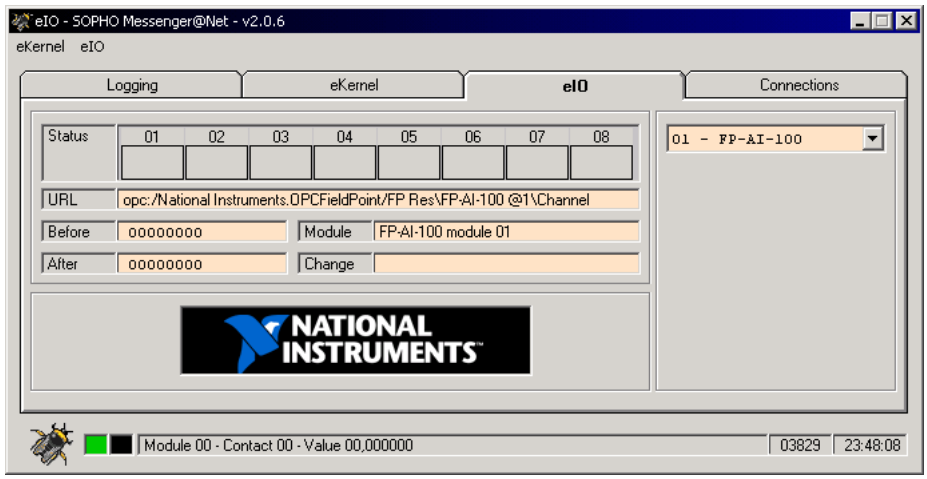
eIO Modules

Select the eIO tab to see a panel with details of the available modules and contacts. Use the drop-down list at the right-hand side of the window to select the module to view.

Analogue input

When you select an analogue input module (FP-AI-100), a window similar to the one in Figure 141 "eIO analogue input modules" (page 400) is shown. For each module a graphical display shows the available contacts. The analogue input also shows the analogue levels.

Figure 141
eIO analogue input modules



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For each module, the URL is shown, and the module identifier. When you hold the mouse pointer over the status area of a contact, detailed information is shown. An example of the information provided is as follows:

```
Min (set:  02,000000 - reset:  08,000000)
Max (reset:  14,000000 - set:  20,000000)
```

The chart shown in Figure 142 "Analogue input ranges" (page 402) explains the behavior of these settings. The chart shows the voltage levels between 0 and 24 V on the Y-axis, and the time between 12:00 and 12:45 on the X-axis. There are four different configuration values, which are indicated in yellow. These values are retrieved from the eIO_AI table and match the environment in FieldPoint Explorer.

On the chart, the analogue measured values are shown in black. The green area is the idle zone, the red areas are alarm zones, and the grey areas are transition zones.

- When the measured value reaches 20,00000 V, a MAX ALARM condition is set. This is shown in the chart on 12:07.
- When the measured value drops to 14,00000 B, the MAX ALARM condition is reset. This is shown in the chart on 12:27.
- When the measured value drops to 02,00000 B, the MIN ALARM condition is reset. This is shown in the chart on 12:37.
- When the measured value reaches 08,00000 V, a MIN ALARM condition is set. This is shown in the chart on 12:45.

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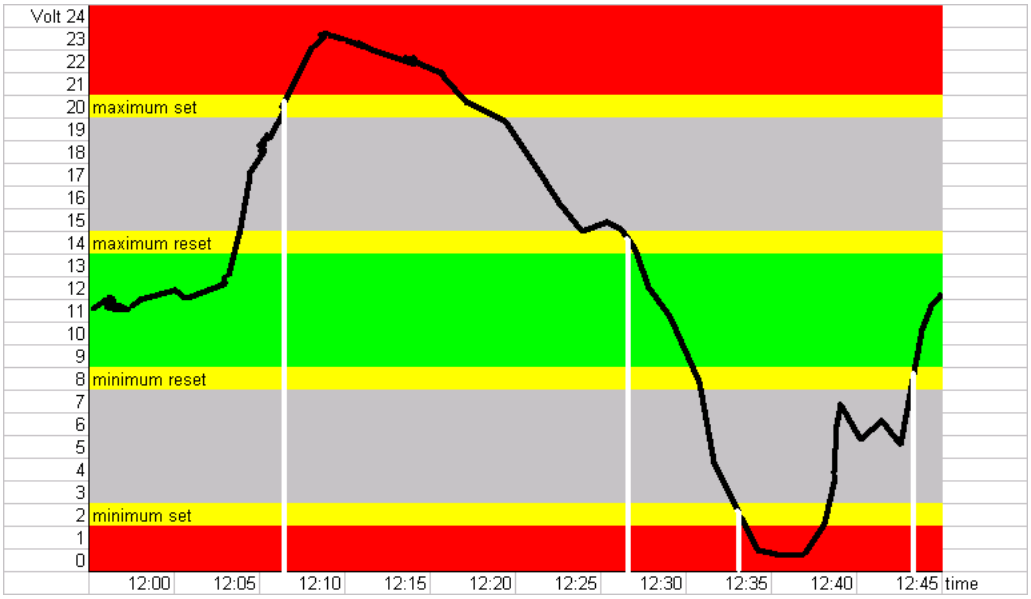
Figure 142
Analogue input ranges



Note: Alarm values are given in pairs. Both maximum and minimum alarms are set and reset with different values. This was implemented to prevent continuous switching between set and reset when measured values are in the neighborhood of alarm values.

- Left-click in the status zone of an analogue contact to display the currently measured value.
- If a measured value generates a maximum (+) or minimum (-) alarm boundary, the Change area of the interface is updated.

Digital input (discrete input)

When you select a digital input module (FP-DI-300, FP-DI-301 or FP-DI-330), a window appears similar to the one shown in Figure 143 "Digital Input module information" (page 403). For each module a graphical display shows the available contacts. A grey rectangle indicates a discrete input value is Off, a green rectangle indicates a discrete input value is On.

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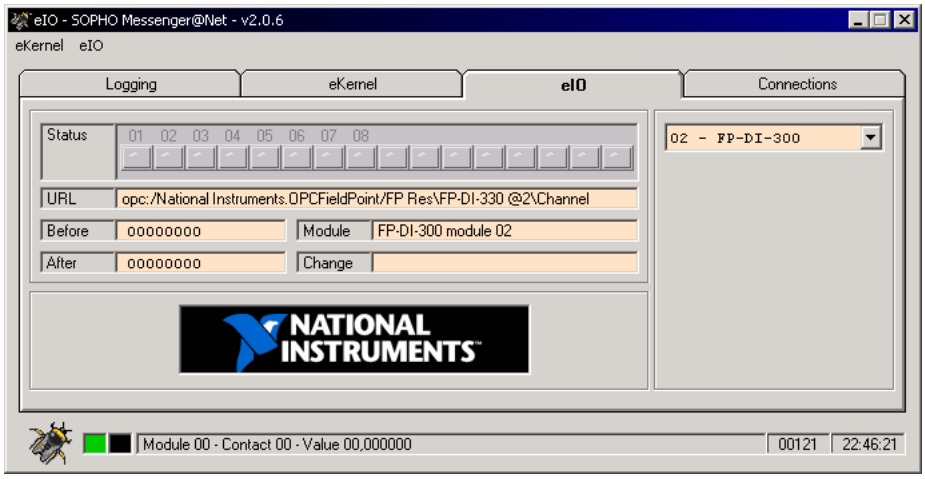
Figure 143
Digital Input module information



Note: When the value of a contact changes from Off to On or from On to Off, the Before and After fields are updated with the status of the contact before the change occurred and the status of the contact after the change occurred. The Change field is also updated with the new value.

Digital output (discrete output)

When you select a digital output module (FP-DO-401), a window appears similar to the one shown in Figure 144 "Digital Output module information" (page 404). For each module a graphical display shows the available output contacts. A grey switch directed to the bottom indicates a discrete output value is Off; a grey switch directed to the upwards position indicates a discrete output value is On. In Figure 144 "Digital Output module information" (page 404), contacts 01 and 04 and 07 are On; all others are Off.

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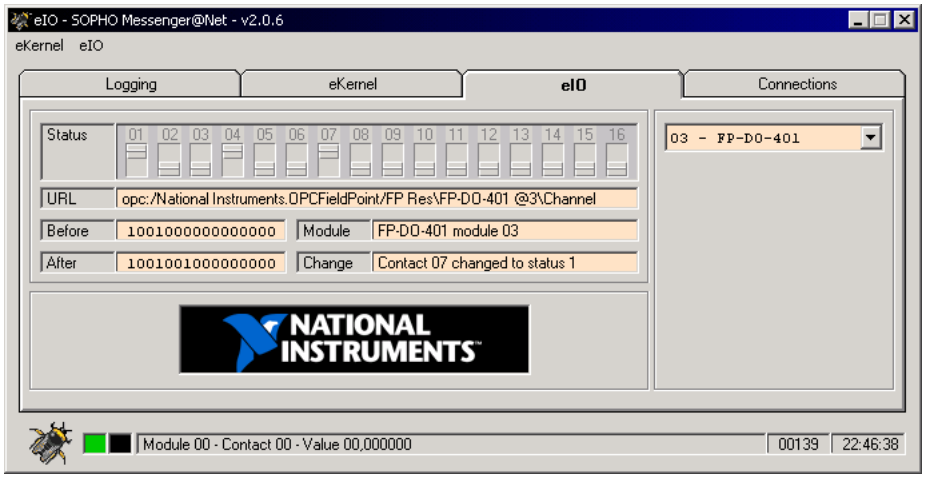
Figure 144
Digital Output module information



Note 1: When the value of a contact changes from Off to On or from On to Off, the Before and After fields are updated with the status of the contact before the change occurred and the status of the contact after the change occurred. The Change field is also updated with the new value.

Note 2: You can also change the status of the contacts to On or Off by using the mouse to drag the switch to the On or Off position. This must be carried out only while installing or testing. In most environments, the eKERNEL application is responsible to activate or deactivate the alarm condition of the discrete outputs. You can however manually reset a status of a contact, for example, if manual intervention is required.

Logging

The eIO module provides logging facilities, both on-screen and on log files on disk.

The on-screen logs are visible through the Logging tab, as shown in Figure 145 "eIO logging" (page 405).

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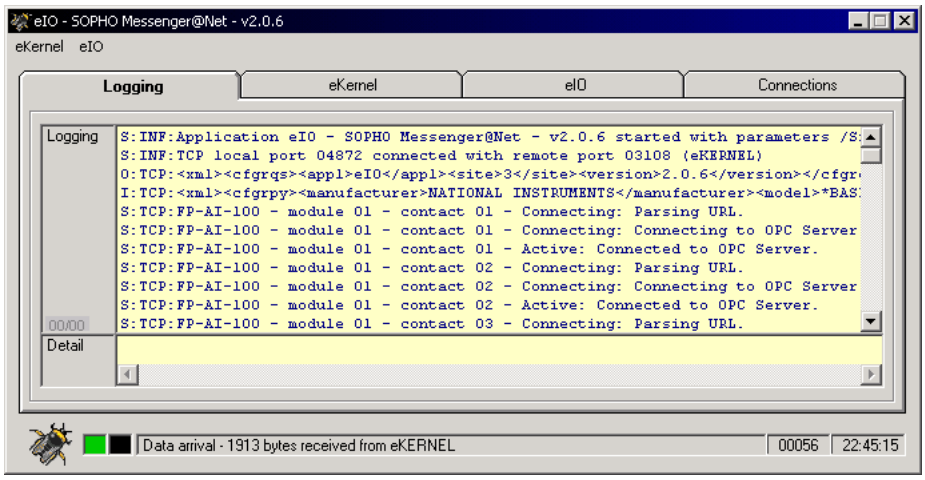
Figure 145
eIO logging



The log files on disk contain the same information as shown on-screen. On the next few pages, Figure 145 "eIO logging" (page 405) through Figure 150 "Log example: Termination" (page 408) show examples of log information saved on disk during different steps of eIO setup and use.

Figure 146
Log example: initialization procedure

```
25/10/2001 10:41:35 -
S:INF:Application eIO - SOPHO Messenger@Net - v2.0.6 started with param-
eters /Site:3 /eKernel address:*LOCAL /eKernel port:3108 /Log drive:C

25/10/2001 10:41:36 -
S:INF:TCP local port 01183 connected with remote port 03108 (eKERNEL)
25/10/2001 10:41:36 -
```


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Figure 147
Log example: Configuration procedure

```
O:TCP:<xml><cfgrqs><appl>eIO</appl><site>3</site><version>2.0.6</ver-
sion></cfgrqs></xml>

25/10/2001 10:41:37 -
I:TCP:<xml><cfgrpy><manufacturer>NATIONAL INSTRUMENTS</manufacturer>
<model>*BASE</model><mod_cnt>3</mod_cnt><mod_01>FP-AI-100</mod_01>
<url_01>opc:/National Instruments.OPCFieldPoint/FP Res\FP-AI-100
@1\Channel</url_01><cnt_01>8</cnt_01><mod_02>FP-DI-300</mod_02>
<url_02>opc:/National Instruments.OPCFieldPoint/FP Res\FP-DI-330
@2\Channel</url_02><cnt_02>8</cnt_02><mod_03>FP-DO-401</mod_03>
<url_03>opc:/National Instruments.OPCFieldPoint/FP Res\FP-DO-401
@3\Channel</url_03><cnt_03>16</cnt_03><ai_01_01_min_s>00,000000</
ai_01_01_min_s><ai_01_01_min_r>00,000000</
ai_01_01_min_r><ai_01_01_max_r>12,000000</
ai_01_01_max_r><ai_01_01_max_s>20,000000</
ai_01_01_max_s><ai_01_02_min_s>00,000000</
ai_01_02_min_s><ai_01_02_min_r>00,000000</
ai_01_02_min_r><ai_01_02_max_r>12,000000</
ai_01_02_max_r><ai_01_02_max_s>20,000000</
ai_01_02_max_s><ai_01_03_min_s>00,000000</
ai_01_03_min_s><ai_01_03_min_r>00,000000</
ai_01_03_min_r><ai_01_03_max_r>12,000000</
ai_01_03_max_r><ai_01_03_max_s>20,000000</
ai_01_03_max_s><ai_01_04_min_s>00,000000</
ai_01_04_min_s><ai_01_04_min_r>00,000000</
ai_01_04_min_r><ai_01_04_max_r>12,000000</
ai_01_04_max_r><ai_01_04_max_s>20,000000</
ai_01_04_max_s><ai_01_05_min_s>00,000000</
ai_01_05_min_s><ai_01_05_min_r>00,000000</
ai_01_05_min_r><ai_01_05_max_r>12,000000</
ai_01_05_max_r><ai_01_05_max_s>20,000000</
ai_01_05_max_s><ai_01_06_min_s>00,000000</
ai_01_06_min_s><ai_01_06_min_r>00,000000</
ai_01_06_min_r><ai_01_06_max_r>12,000000</
ai_01_06_max_r><ai_01_06_max_s>20,000000</
ai_01_06_max_s><ai_01_07_min_s>00,000000</
ai_01_07_min_s><ai_01_07_min_r>00,000000</
ai_01_07_min_r><ai_01_07_max_r>12,000000</
ai_01_07_max_r><ai_01_07_max_s>20,000000</
```

```
ai_01_07_max_s><ai_01_08_min_s>00,000000</
ai_01_08_min_s><ai_01_08_min_r>00,000000</
ai_01_08_min_r><ai_01_08_max_r>12,000000</
ai_01_08_max_r><ai_01_08_max_s>20,000000</
ai_01_08_max_s><log_path>C:\SOPHO Messenger@net
</log_path><log_days>1</log_days></cfgrpy></xml>
```


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Figure 148
Log example: Binding to OPC Servers

```
25/10/2001 10:41:37 -
S:TCP:FP-AI-100 - module 01 - contact 01 - Connecting: Parsing URL.

25/10/2001 10:41:37 -
S:TCP:FP-AI-100 - module 01 - contact 01 - Connecting: Connecting to OPC
Server.

25/10/2001 10:41:38 -
S:TCP:FP-AI-100 - module 01 - contact 01 - Active: Connected to OPC Serv-
er.

:
:
:

25/10/2001 10:41:39 -
S:TCP:FP-DI-300 - module 02 - contact 01 - Connecting: Parsing URL.

25/10/2001 10:41:39 -
S:TCP:FP-DI-300 - module 02 - contact 01 - Connecting: Connecting to OPC
Server.

25/10/2001 10:41:39 -
S:TCP:FP-DI-300 - module 02 - contact 01 - Active: Connected to OPC Serv-
er.
:
:
:
25/10/2001 10:41:39 -
S:TCP:FP-DO-401 - module 03 - contact 01 - Connecting: Parsing URL.

25/10/2001 10:41:39 -
S:TCP:FP-DO-401 - module 03 - contact 01 - Connecting: Connecting to OPC
Server.

25/10/2001 10:41:39 -
S:TCP:FP-DO-401 - module 03 - contact 01 - Active: Connected to OPC Serv-
er.
```

Figure 149
Log example: Message Request

```
25/10/2001 10:42:47 - O:TCP:<xml><msgrqs><type>DI</type><module>02</mod-
ule><contact>01</contact><sts>1</sts></msgrqs></xml>
```


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Figure 150
Log example: Termination

```
25/10/2001 10:41:59 -
O:TCP:<xml><pgmsts><value>Shutdown</value></pgmsts></xml>

25/10/2001 10:41:59 -
S:INF:Application ended
```


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Module - eKERNEL

General

eKERNEL is the core engine of the DECT Messenger, and is in the basic implementation the only module that accesses the database.

The eKERNEL receives information from various input sources, and exchanges information with various output sources.

Communication with eKERNEL is performed through TCP/IP stream sockets, where the eKERNEL acts as a server. The other modules that communicate to the eKERNEL act as clients.

All data streams are formatted in XML format, and are delimited with an <xml> start tag and an </xml> end tag, followed by CHR$(13) and CHR$(10). Within these tags, a number of keywords are embedded with their appropriated values.

In short, the eKERNEL is the central engine of the DECT Messenger, and controls the functioning of all the other modules. Figure 151 "eKERNEL interface" (page 410) shows the eKERNEL interface.

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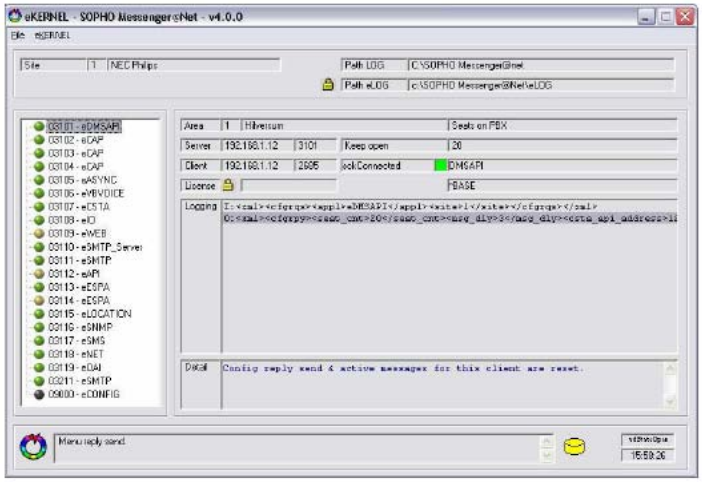
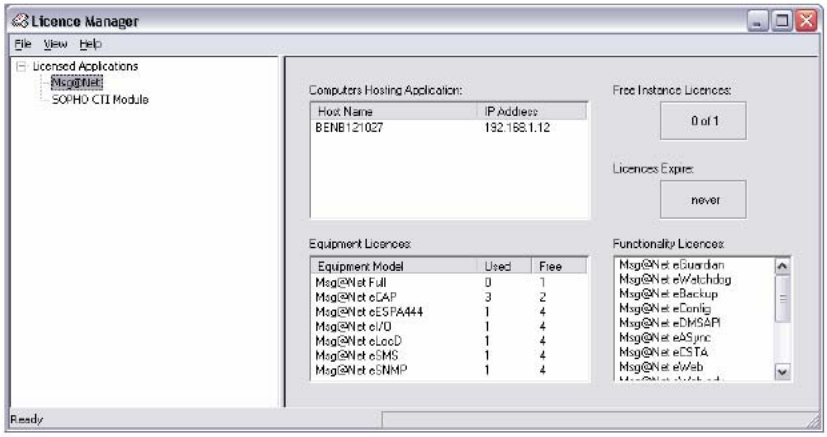
Figure 151
eKERNEL interface



License Manager

The DECT Messenger package is secured by a licensing system, to prevent unlicensed usage of certain modules and clients.

Figure 152
License Manager



At startup, the eKERNEL searches for a valid license. If there is no valid license (because, for instance, the license expired or licensing system is not installed), the eKERNEL program aborts. To determine if the

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installed licensing system is valid, use the Nortel License Manager. If this component is not yet installed, refer to “Install PC - Step 1e - License Manager” (page 39).

If a valid application is bound, all Tabs of the eKERNEL program show a crossed-through key icon, while the eKERNEL Tab shows a clear key icon.

- Clear key icon: [license bound]

- Crossed-through key icon: [license unbound]

Equipment and Functionality models

The licensing system distinguishes between *equipment* models and *functionality* models.

- The following models are assigned as equipment:

  eCAP, eESPA, eIO, eLOCATION, eSMS, and eSNMP.

- The following models are assigned as functionality:

  eWATCHDOG, eBACKUP, eCONFIG, eDMSAPI, eASYNC, eCSTA, eWEB, eSMTP, eSMTP_server, eAPI, and eVBVoice.

A key difference between equipment and functionality models is the count of available licenses, as illustrated in Table 20 "License examples" (page 411). Equipment models have only a specified number of available licenses, while functionality models have an unlimited number of available licenses.

Table 20
License examples

Module	total licenses	used	free
ECAP [equipment]	3	2	1
EESPA [equipment]	2	2	0
ECSTA [functionality]	unlimited	N/A	N/A
DMSAPI [functionality]	unlimited	N/A	N/A

Whenever a client connects to the eKERNEL through a configuration request, the eKERNEL determines whether the client is an equipment or functionality model.

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- Equipment model

  If the client is defined as equipment, the eKERNEL tries to bind this equipment to the license. Success depends on the availability of a free license. To verify how many licenses are available on the system, use the Nortel License Manager. This program gives an overview of bound licenses. If an equipment model disconnects, its license is unbound and the total of free equipment licenses is increased. On the other hand, if an equipment module connects, the total of free equipment licenses is decreased (and the total of used equipment licenses increased). A bound equipment model receives a valid configuration reply. If the equipment model cannot be bound, a status message is sent as follows: **<pgmsts>NO LICENCE AVAILABLE</pgmsts>**.

- Functionality model

  If a client is a functionality model, the eKERNEL checks if the given functionality is available in the license system, and if so, sends a valid configuration reply. If the requested functionality is not available in the license, a status message is sent as follows: <pgmsts>NO LICENCE AVAILABLE</pgmsts>.

When a client (equipment or functionality model) is licensed, eKERNEL also provides a configuration reply, and the specific eKERNEL tab-page is updated with a clear key icon. If the license cannot be bound or no correct functionality is available, the eKERNEL tab-page is not updated, and the crossed-through key icon remains.

eAPI and eWEB

eAPI and eWEB do not send configuration requests. To ensure that eAPI and eWEB are licensed properly, eKERNEL checks these two functionality models individually. If eAPI and eWEB are found in the License system, the TCP/IP ports for any clients of this kind are opened. If no eAPI or eWeb functionality is available in the license system, the ports are not opened and the eAPI or eWeb clients are not able to connect.

License maintenance

Every 24 hours, at midnight, each client that is connected to the eKERNEL is checked to determine whether the license is still valid. If the Application license (eKERNEL program) is expired, eKERNEL sends a message to all of its clients and closes all of its ports, so no client is able to reconnect. After checking the Application license, equipment and functionality models are checked for validation.

When installing a new license with more available equipment models or adding one of the functionality models eWeb or eAPI, the eKERNEL must explicitly be told about the new license. To tell eKERNEL about a

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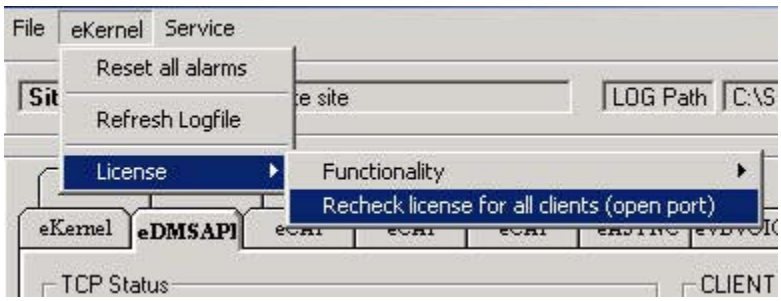
new license, use the menu command: **eKERNEL > License > Recheck license of all clients (open port)** as shown in Figure 153 "Rechecking licenses" (page 413).

Note: eKERNEL makes this same check automatically at midnight. Note that rechecking all licensing is a time-consuming process.

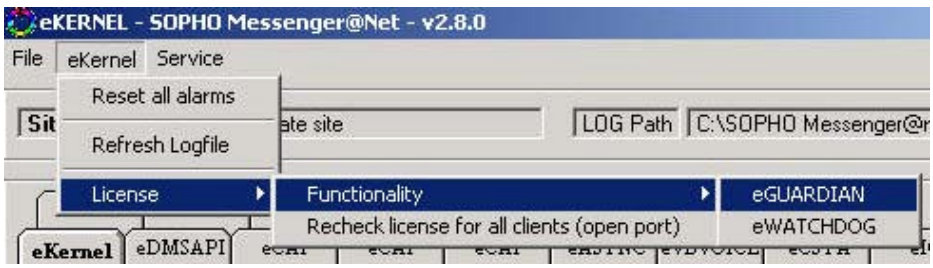
Figure 153
Rechecking licenses



When installing a new license with new available functionality (eGuardian or eWatchdog), the eKERNEL must be told about the new license. To tell eKERNEL about a new license, use the menu command: **eKERNEL > License > functionality** as shown in Figure 154 "Adding license functionality" (page 413).

Note: eKERNEL makes this same check automatically at midnight. Note that rechecking all licensing can take a little time.

Figure 154
Adding license functionality



If a license is installed with fewer equipment licenses than there are clients that need them, the clients that are no longer licensed continue to function until the license is rechecked. When the license is rechecked, unlicensed clients receive a status message <pgmsts>NO LICENCE AVAILABLE</pgmsts>, and their TCP/IP port is closed. This same principle applies to functionality models such eWEB and eAPI.

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External interfaces

There are a number of external interfaces that you can attach to the eKERNEL. These interfaces can act as input source, output source, or play both roles.

An eKERNEL without any external models is unable to perform work. A minimum configuration requires at least one input source (for example, eCAP for capturing a TELEVIC PROTOCOL CONVERTOR signalling system), and one output source (for example, eDMSAPI for sending E2-data messages to cordless DECT handsets).

You can attach additional input sources to the product. For example, eCAP for other signalling systems, eIO for unpowered contact detection, eSMTP for receiving MAIL, and eWEB for receiving messages from the Internet.

You can attach additional output sources to the product. For example, eSMTP for sending electronic mail, eASYNC for sending short messages to GSM and Pagers, eCSTA for sending voice call based user-to-user messages, eVBVOICE for handling outgoing voice calls.

> ***Note:*** In release 4.0, the maximum amount of modules has been increased from 21 to 30.

Database

The eKERNEL application is the only application that communicates directly with the databases. Every external application receives its configuration from eKERNEL.

There are two databases. One is named Messenger_CFG.mdb, and another is named Messenger_data.mdb. Both databases are in Microsoft Access 2000 format, and are processed through applications written in Microsoft Visual Studio 6.0 (Visual Basic and C++).

In release 4.0, the Messenger_DATA database can also reside on SQL Server 2005 Express, SQL Server 2000 Desktop Engine (MSDE), or an external SQL 2000 or 2005 server.

The Messenger_CFG.mdb contains several tables, and defines the configuration of the DECT Messenger software. These tables determine the behavior of the product.

The Messenger_data.mdb contains several tables, and are an internal work space of DECT Messenger. Some models, such as eKERNEL, access this database heavily. Nortel recommends that you avoid using the data database, except for problem determination and recovery services.

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TCP Connections

The eKERNEL acts as a TCP Server, and typically listens to several ports.

You can configure the TCP clients in the configuration database.

The status of each connection is visible on the screen of the eKERNEL application. In normal operation, an active connection is indicated by the color green. A client that is not connected is indicated by the color yellow. Other colors indicate an intermediate state or an error condition.

Logging

You can log every event to ASCII log files and on the screen. The on-screen buffer is limited to 100 records. To see details, double-clicking on the log records. The log files are commonly stored in the directory specified in the CFG_Log_path_str field of the eKERNEL_site table.

If CFG_Log_path_str = C:\SOPHO Messenger@net, all log files are stored in the C:\SOPHO Messenger@Net\log\eKERNEL directory. Each day a new log file is created at midnight.

Menu options

- **File > Exit**

  This option closes the eKERNEL application.

- **eKERNEL > Reset all alarms**

  This option clears all active alarms in the data database.

- **eKERNEL >Refresh logfiles**

  This option closes and reopens the log file of the eKERNEL application. Perform this action before opening the log file for the current day, so all data that is still in memory is copied to the log file.

- **Service > Delete all data records**

  This function deletes all the records of the selected table. Perform this action to be sure you start with a clean data database at the customer.

Watchdog

When the Watchdog facility is enabled, an icon of a dog is visible at the right top of the window, as shown in Figure 155 "Watchdog enabled" (page 416). When active, Watchdog sends the command string entered in the CFG_Watchdog_cmd_str field of the eKERNEL_SITE table to the connected com port. The command string is sent every CFG_Watchdog_interval_n seconds.

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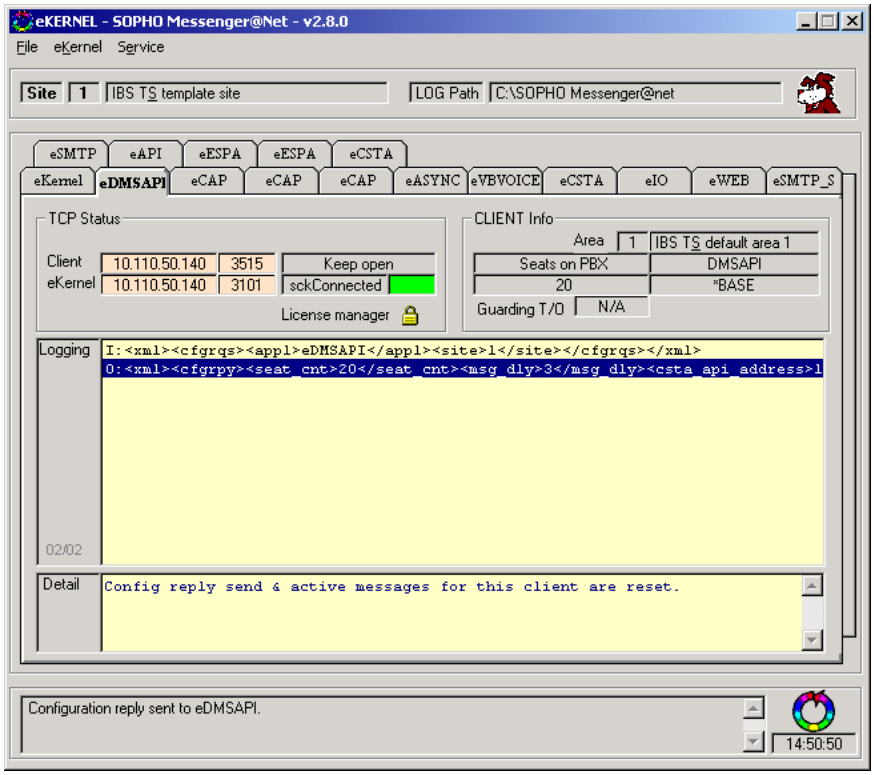
Figure 155
Watchdog enabled



Guarding

For every input program, the administrator can configure a guarding facility, as shown in Figure 156 "Guarding information" (page 417).

If guarding is activated for a specific input program, an indication is given in the Client information frame for every TCP/IP client.

The Guarding T/O field specifies the timeout that is defined in the eKERNEL_guarding table, and the last event field text box shows the number of seconds that have passed since the last request was received from the TCP/IP client. Once the Last event value exceeds the guarding timeout value, a guarding alarm is generated.

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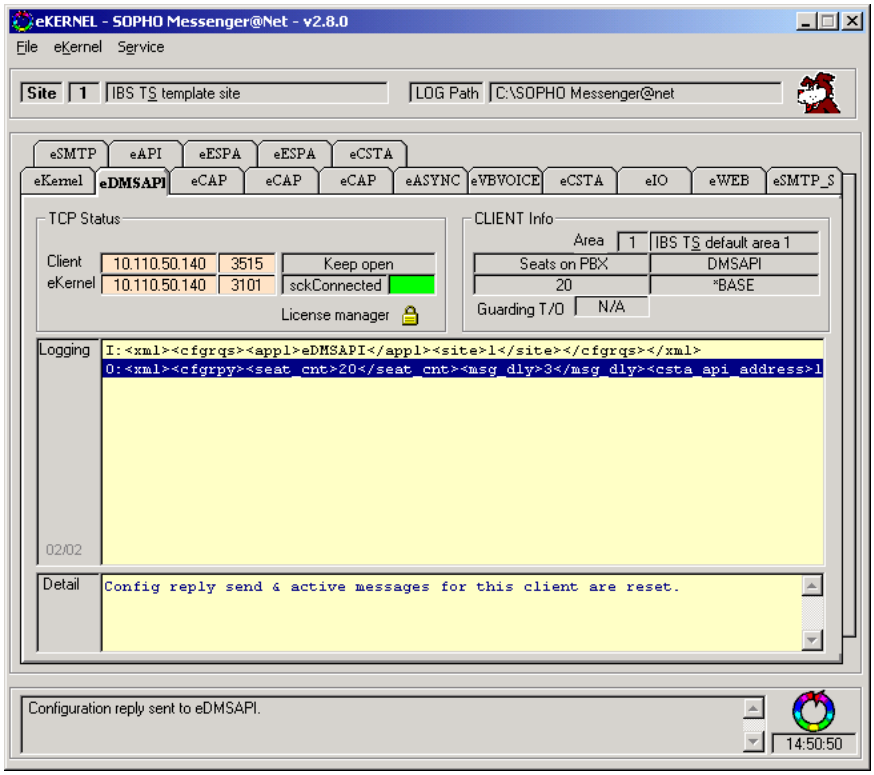
Figure 156
Guarding information



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Module - eLICENSE

ATTENTION
Due to the ongoing development of the DECT Messenger product suite, some modules that provide additional functionality may become available after the initial release of DECT Messenger 4.0.

The following modules are described in this NTP but are not available at initial General Availability.

- eFR
- eLICENSE
- eLOCATION
- eSMS
- eSNMP
- eVBVOICE

The eFR module is an add-on module and is licensed separately through the eLICENSE module. Some of the modules listed in this attention box are available only on a site-specific basis.

In DECT Messenger release 4.0, portions are packaged and distributed as add-on modules, including eLICENSE.

License mechanism

The license mechanism used is the major difference between regular modules and add-on modules. Regular modules are licensed through the License Manager and protected by a hardware dongle and license string. Add-on modules use a different license mechanism.

Ordering

Add-on modules are currently not supported. Contact Nortel for further information.

Install module eLICENSE

The module eLICENSE provides a windows application used in to retrieve the fingerprint of the system. The eLICENSE software must be installed at the destination system where the add-on modules are activated. In

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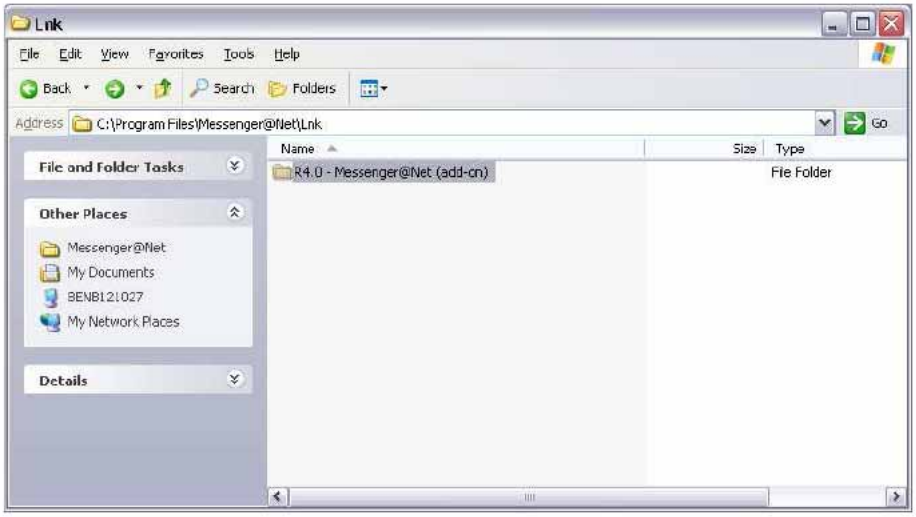
the majority of the cases, add-on modules, such as eFR, reside on the MESSENGER system running eKERNEL. However, when add-on modules are installed on different systems, install eLICENSE on the systems where add-on modules are installed.

Procedure 73
Installing eLICENSE

Step	Action
1	Locate and open the **eLICENSE** module from the CD-ROM image, found in directory **09 - Add-ons - 2008.04.23 > 2008.04.23 – eLICENSE**.
2	Double-click the **SETUPEX.EXE** file to install.
3	Accept all defaults. After installation, the software resides in C:\Program Files\Messenger@Net\Exe.
4	Open Explorer and navigate to **C:\Program Files\Messenger @Net\Lnk**.
5	Copy the directory **R4.0 – Messenger@Net (add-on)** and drag it to the Start button (bottom-left of the windows desktop).



--End--

Run module eLICENSE

Procedure 74
Running module eLICENSE

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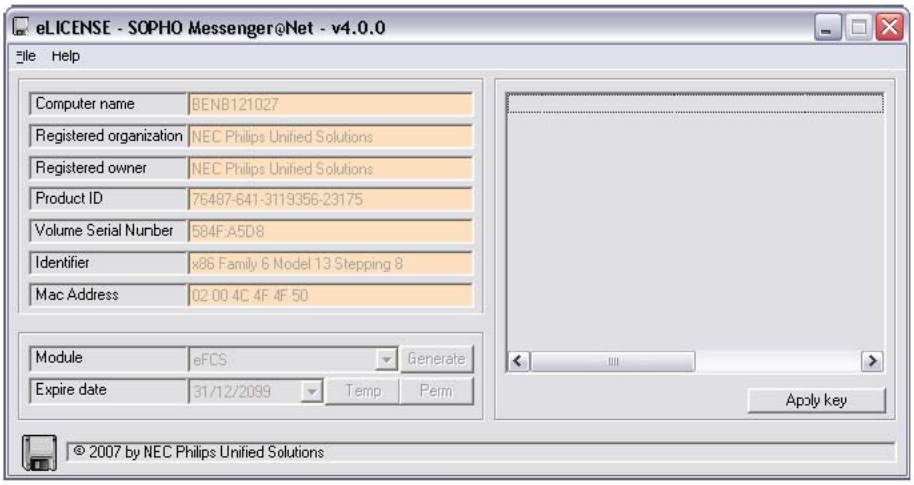
Step	Action
1	Start the module eLICENSE by double-clicking file **C:\Program Files\Messenger@Net\Exe\eLICENSE.exe** A window similar to the one in the following figure appears.



2	Save the XML file by selecting **File > Save Fingerprint**.
3	Accept the default path **C:\SOPHO Messenger@Net\Xml** . The default filename is usually your computer name with extension Xml. For example, on computer MESSENGER the file is MESSENGER.Xml. The resulting XML file contains 7 parameters retrieved from your hardware and operating system.
4	Use Internet Explorer to open the XML file. Double-click the file residing in **C:\Program Files\Messenger@Net\Xml**.

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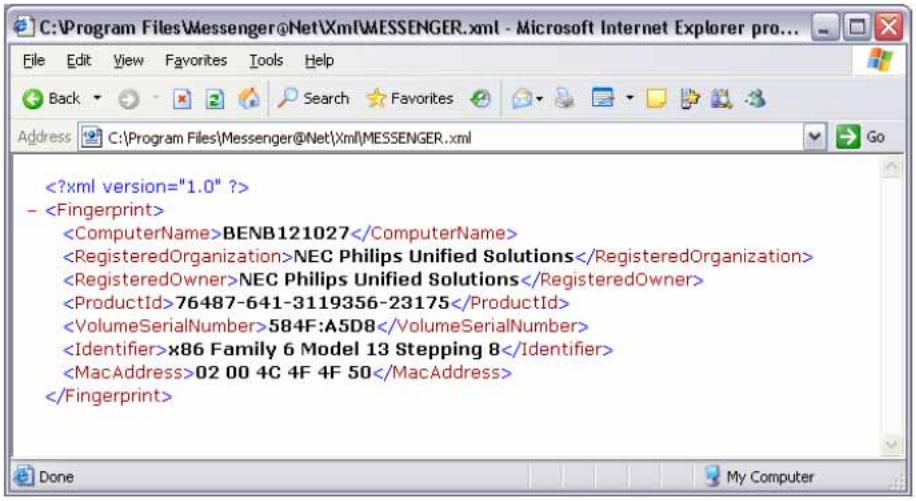


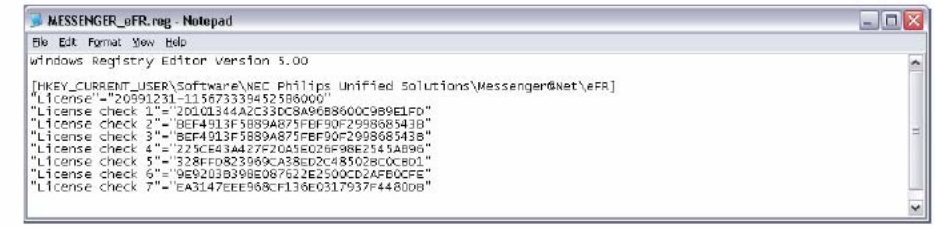
--End--

Applying the key

The license file name contains the originating computer name, for example, MESSENGER, as well as the licensed module name, for example, eFR. Therefore, if you request a license for computer MESSENGER for add-on eFR, the filename is MESSENGER_eFR.reg.

A sample license file follows.

Figure 157
Sample license file



Procedure 75
Applying the license file

Step	Action
1	To apply the license file, place the license file in any directory of your destination system, for example, in C:\Program Files\Messenger@Net\Reg.

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2 Double-click the **license** file.

A message appears.

3 Click **Yes** when the message appears that asks if you are sure you want to add the information in the license files, for example, C\Program Files\Messenger@Net\Reg\Messenger_eFR.reg, to the registry.

A Registry Editor message appears that states that the Information in your license file is successfully entered into the registry.

4 Click **OK** when the Registry Editor message appears.

--End--

When you request a license key for other add-on modules, you receive additional REG-files that also must be merged.

Disaster recovery

If your system is replaced by another system, the following message box appears to indicate that the previous license file is no longer valid. For example, if your hard disk and Ethernet adapter are both replaced, this warning appears.

Figure 158
Invalid license key warning

eFR - SOPHO Messenger@Net
License key is invalid for this system.
OK
Cancel
Please contact you software representative and order a licence key for Messenger@Net module eFR.
The software will be registered to:
NEC Philips Unified Solutions.
NEC Philips Unified Solutions.
76487-641-3119356-23175.
You may be asked to provide the info listed below:
Computer name BENB121027.
Serial number 230464-584F-OEM-A5D8.
MAC address 02 00 4C 4F 4F 50.
Processor x86 Family 6 Model 13 Stepping 8.
Enter the license key below and press OK to continue.

If this occurs, request an updated license file.

Note 1: If you cannot wait to restart the system, type the word Evaluation in the text box in the invalid license key warning, shown

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in Figure 158 "Invalid license key warning" (page 423). This gives you access to the module, but it does not apply a permanent key. By entering the word Evaluation, you can continue to run the application until you receive a new valid license for the changed system.

Note 2: The invalid license key warning appears each time the software starts unless you apply the new license key.

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Module - eLOCATION

ATTENTION
Due to the ongoing development of the DECT Messenger product suite, some modules that provide additional functionality may become available after the initial release of DECT Messenger 4.0.

The following modules are described in this NTP but are not available at initial General Availability.

- eFR
- eLICENSE
- eLOCATION
- eSMS
- eSNMP
- eVBVOICE

The eFR module is an add-on module and is licensed separately through the eLICENSE module. Some of the modules listed in this attention box are available only on a site-specific basis.

The eLOCATION module is used with SIP DECT systems only. It collaborates with eDMSAPI and eKERNEL to allow location detection of SIP DECT extensions.

The eLOCATION module receives message location detection requests from the eKERNEL module and responds with location reply results to eKERNEL. Then, eKERNEL resumes processing and dispatches the resulting alarm message to the defined group of users.

Each eLOCATION connects to a DAP Controller and communicates with it to find out the last used RPN for the requested SIP DECT extension. This involves a sockets connection between eLOCATION and the DAP Controller.

For this connection, eLOCATION is the TCP client and the DAP Controller is TCP server listening on port 28008.

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Initialization

You use a shortcut to start the eLOCATION module. The following figure shows an example of the required keywords.

Figure 159
eLocation module keywords

```
"C:\SOPHO Messenger@Net\Exe\eLOCATION.exe"
/Site:1
/eKernel address:*LOCAL
/eKernel port:3203
/Log drive:C
```

The following keywords are used to start the eLocation module.

- The "site" keyword indicates the site that is assigned to the eLOCATION module
- The "eKernel address" keyword indicates the IP address that is assigned to the eKERNEL module. The eLOCATION contacts this IP address to connect to the eKERNEL
- The "eKernel port" keyword indicates the port number that is assigned in the configuration for the eLOCATION client instance.

When the "eLOCATION" application starts the application attempts to connect to the "eKERNEL". The attempt to connect is based upon the address and port information obtained from the Shortcut.

At connection, the "eLOCATION" requests that the "eKERNEL" provide additional configuration settings. This request is known as a configuration request. The "eKERNEL" then authenticates the client and responds with a "configuration reply".

The following figure illustrates the initialization procedure.

Figure 160
Initiation procedure

```
S:INF:Application eLOCATION - SOPHO Messenger@Net - v4.0.0  started
with parameters /Site:1 /eKernel address:*LOCAL /eKernel port:3203 /Log
drive:C

S:INF:TCP local port 02545 connected with remote port 03203 (eKERNEL)
O:TCP:<xml><cfgrqs><appl>eLOCATION</appl><site>1</site></cfgrqs></xml>

I:TCP:<xml><cfgrpy><la_address>192.168.32.10</la_address><la_port>28008<
/la_port><generaltimeout>10</generaltimeout><polling_intv>60</polling_
intv><log_path>C:\SOPHO
Messenger@net</log_path><log_days>14</log_days></cfgrpy></xml>
S:INF:TCP local port 02549 connected with remote port  28008  (DCC)
```


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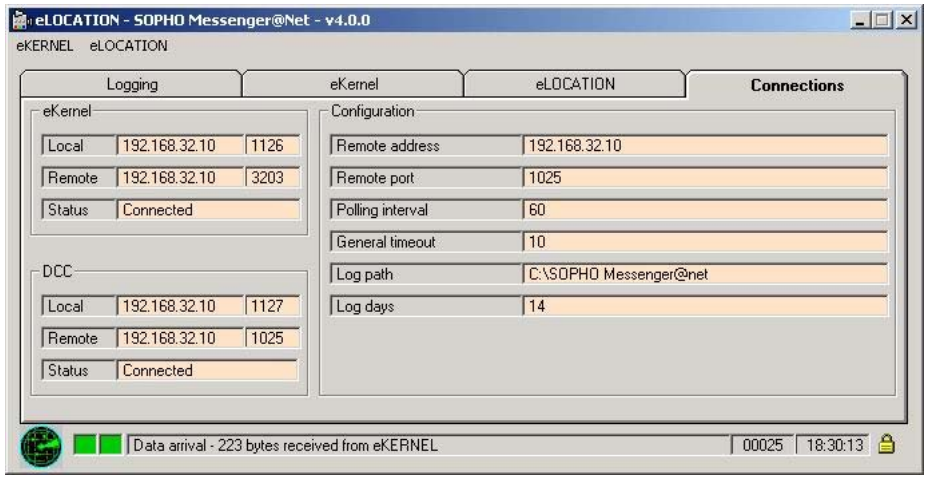
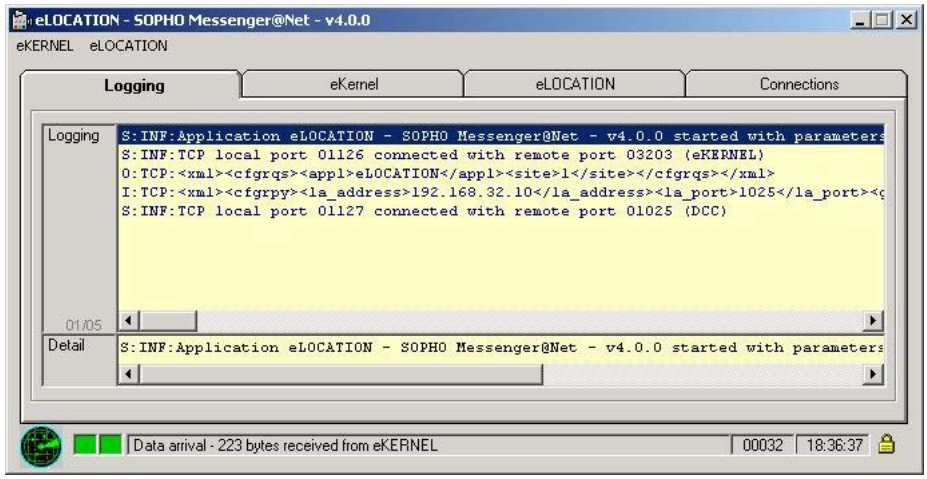
When the configuration is received, a screen similar to the one shown in the following figure is shown. View the configuration in the "Connections" tab.

Figure 161
eLocation configuration connections tab



The logging tab shows logging information.

Figure 162
eLocation configuration logging tab



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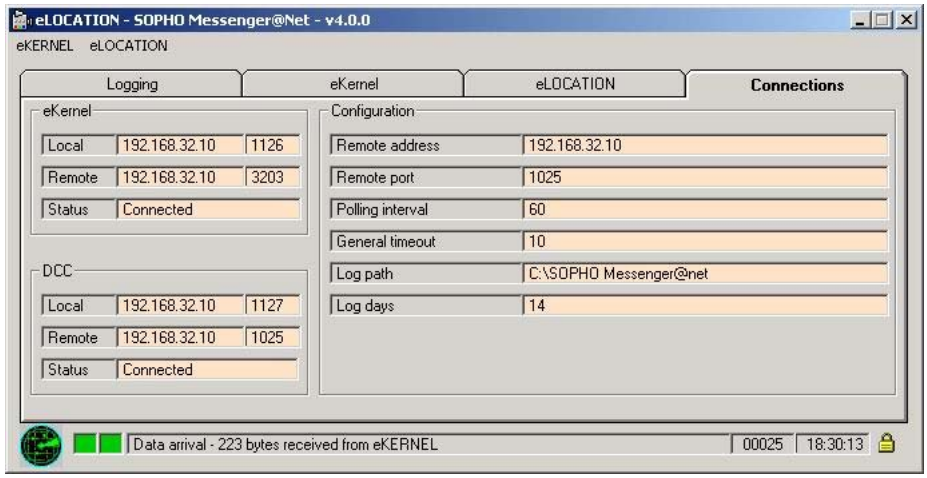
Program activity

When the startup phase is done, eLOCATION has two permanent socket connections.

- One socket connection is established with the eKERNEL and is used to exchange "location requests" and "location reply" data flow.
- The other socket connection is established with the DAP Controller PC (DCC) and follows a proprietary protocol to retrieve location information of SIP DECT extensions.

The link with the DAP Controller exchanges data on regular time interval, so both parties can verify the activity of the remote party. This guarding is typically represented by the informational message "Data arrival – 1 bytes received from DCC". When the connection is broken, eLOCATION attempts to reestablish a session.

Figure 163
eLocation program activity



Note: Define The IP address of the PC that runs eLOCATION in the PBX. When the IP address is not defined, the connection request is rejected by the DAP Controller. The two green indicators on the bottom of the eLOCATION panel illustrate the successful connection state between both external parties.

Keep track of the progress of the actual location detection process through the eLOCATION tab. The location detection process takes place when eKERNEL sends a location request to eLOCATION. The following figure shows the idle state at system startup prior to executing the first request.

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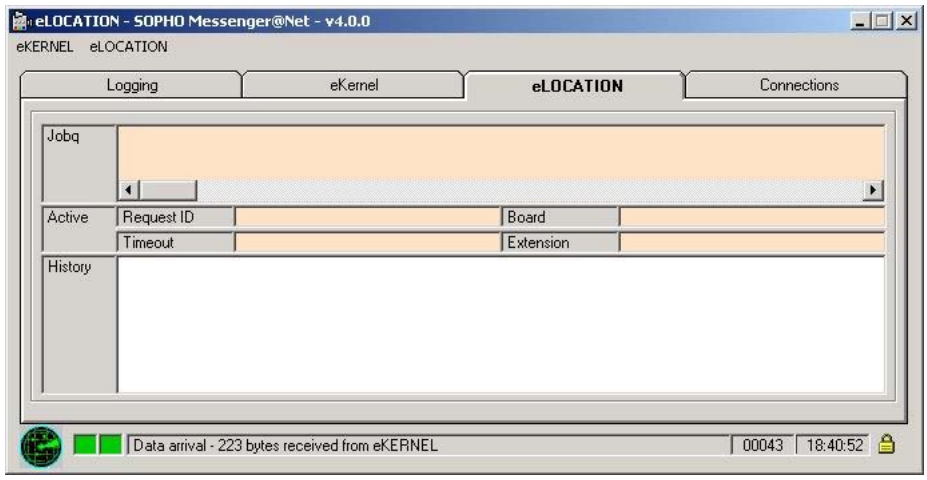
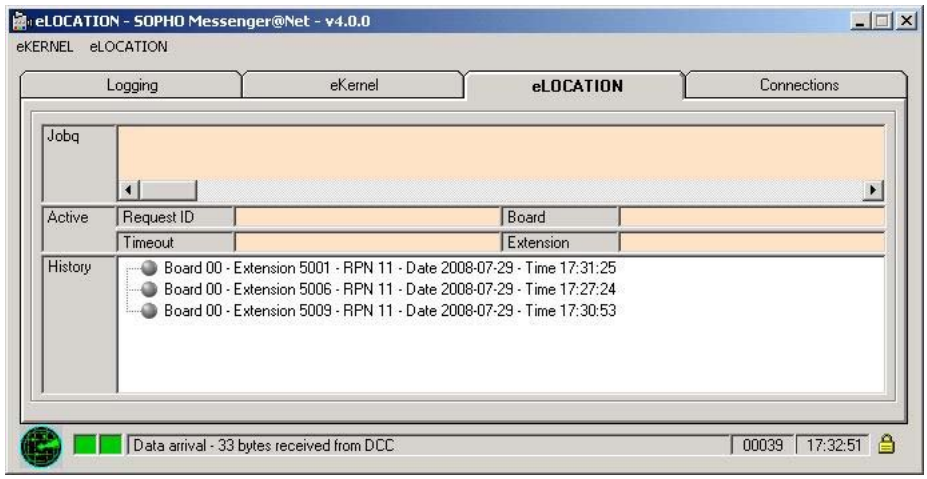
Figure 164
Idle state of system at startup



After the processing of a location request, the panels are updated as shown in the following figure.

Figure 165
eLocation updated panels



The "history" panel keeps track of all location request results. In the previous figure several requests with positive feedback are presented in a history tab.

The "logging" panel in the following figure illustrates the detailed data exchange with the DAP Controller for the previous requests.

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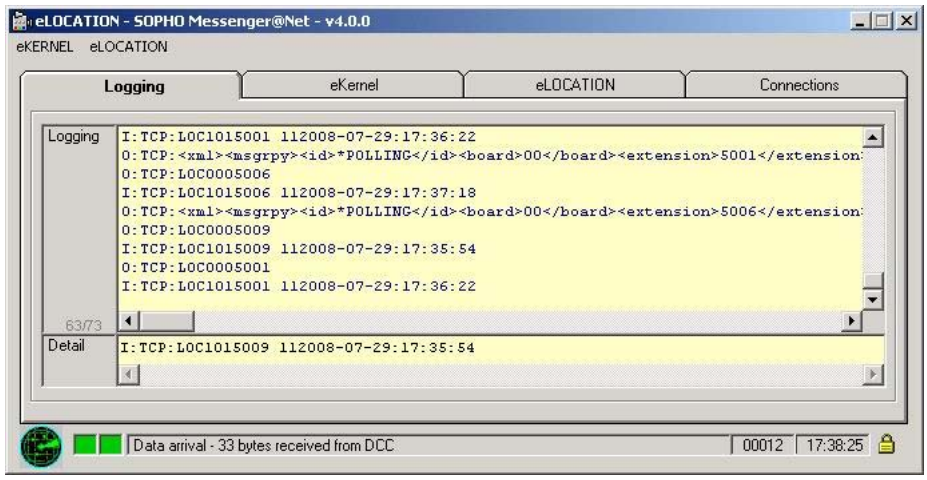
Figure 166
Logging panel



Architecture

There are several steps involved to make eLOCATION operational.

The effected items in the setup of the functionality follow.

- One special number with '*LA' type should be defined in the eDMSAPI module in the eDMSAPI_INBOUND table (i.e. number 112 or 911).

  In the following figure, eCONFIG is used to illustrate the configuration process.

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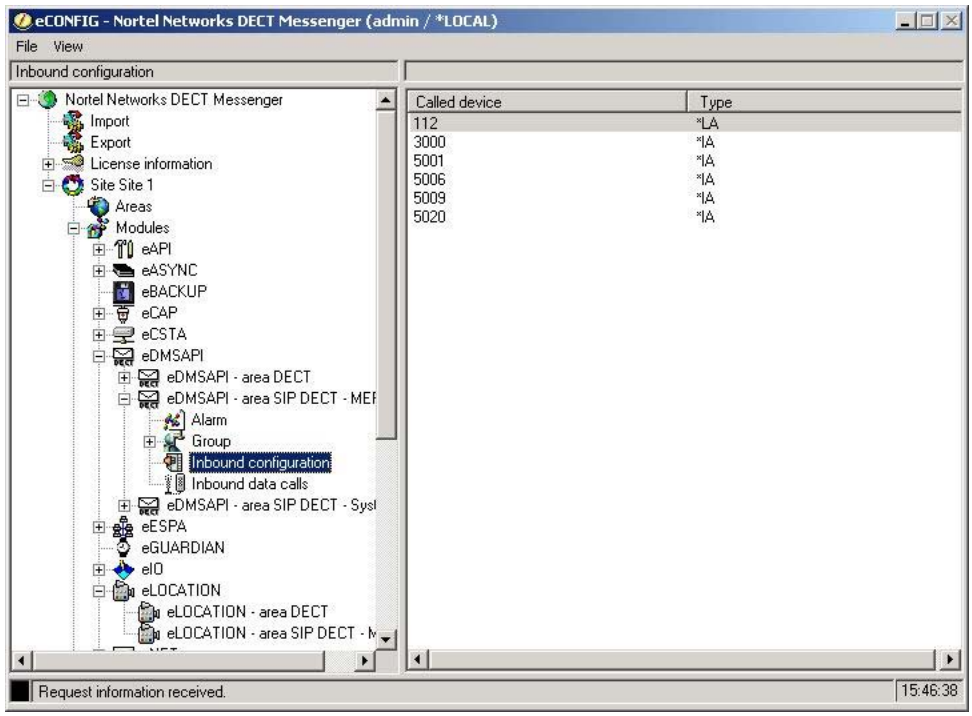
Figure 167
eConfig illustrates the configuration process



In the following two figures, extension 112 with type '*LA' is defined for location detection.

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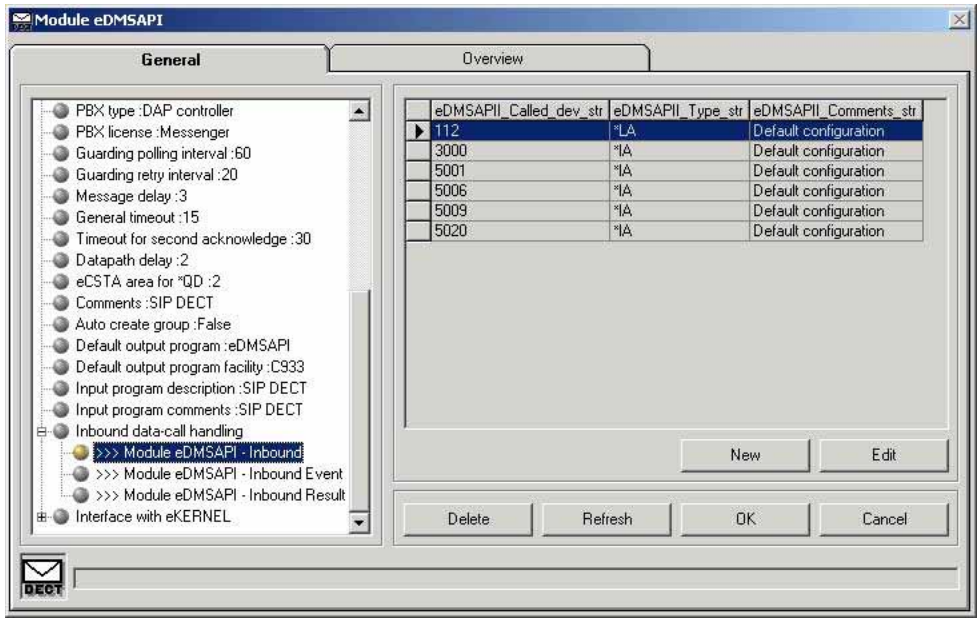
Figure 168
Module eDMSAPI



- The next item that you must define is the correct record in the table eDMSAPI_INBOUND_EVENT for the special number defined above in the same manner as it is done for all other extensions.

  The following figure shows an example of the special number configuration in the eDMSAPI_INBOUND_EVENT table.

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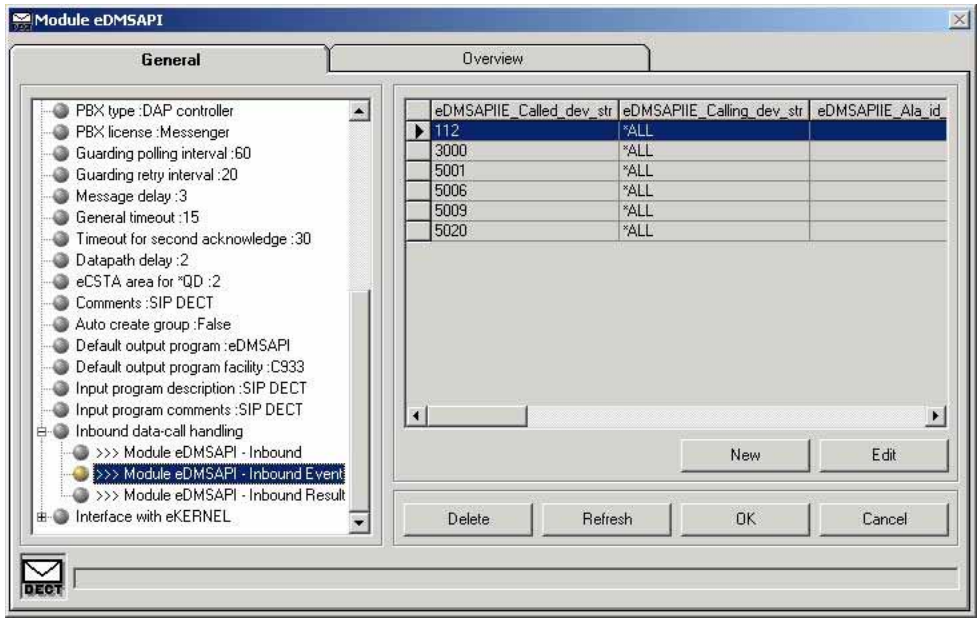
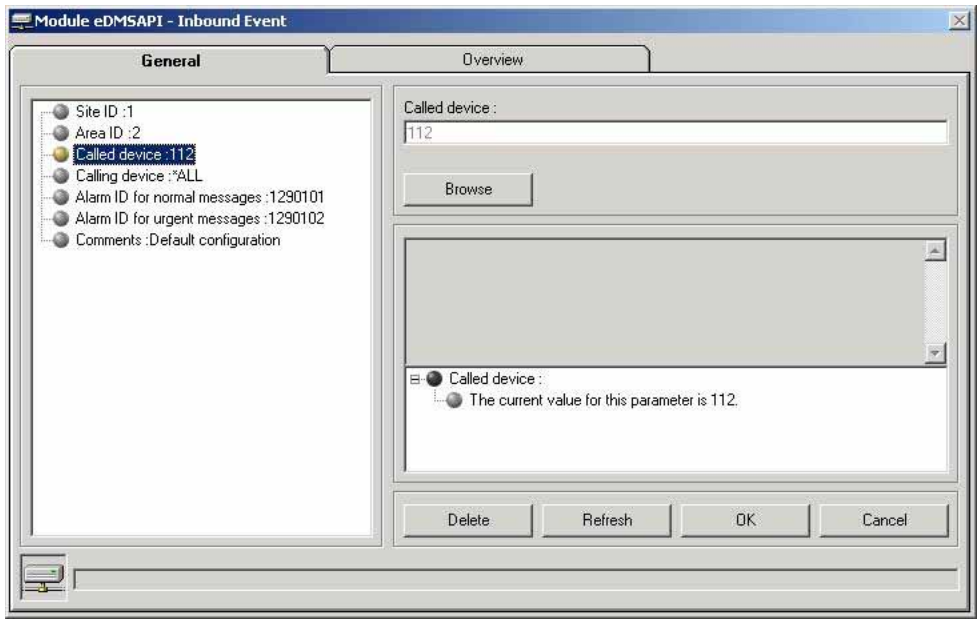
Figure 169
Module eDMSAPI inbound event



The following figure illustrates detailed configuration for a special number in eDMSAPI_INBOUND_EVENT table.

Figure 170
Module eDMSAPI inbound event - detailed configuration



- Next the eKERNEL module contacts the eLOCATION module to find out the physical location of the SIP DECT user.

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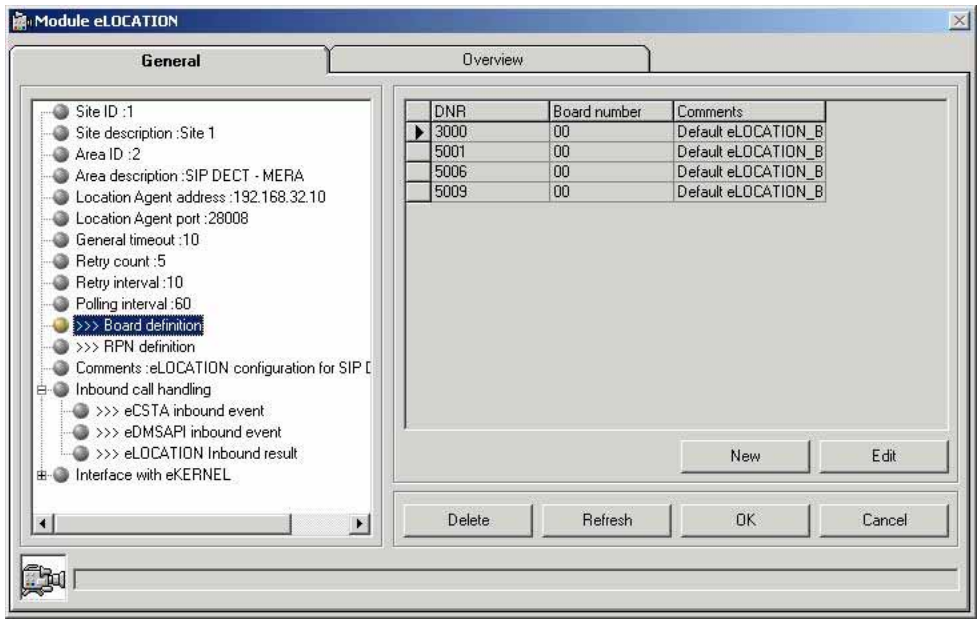
In DECT Messenger prior to release 2.9.10, the eKERNEL contacts only the eLOCATION of the same site and the same area as the eDMSAPI module that alerted the alarm. This means if the alarm was detected from eDMSAPI site 1 area 1, eKERNEL only contacts eLOCATION site 1 area 1. This was a limitation to the scalability of the solution, as there is a one-to-one relationship between eDMSAPI numbering and eLOCATION numbering.

In release 2.9.10 and in subsequent releases, the eKERNEL contacts every instance of eLOCATION of the same site of the originating eDMSAPI module. This means that an alert from eDMSAPI site 1 area 1 is forwarded to all eLOCATION instances of site 1. As a result, in a environment with three DAP Controller PCs and three associated eLOCATION instances, the location request is sent to all three eLOCATION modules. Each DAP Controller PC then has the opportunity to provide feedback on the last known location of the requested extension or calling party, and return this last known location to eKERNEL.

Depending on the version of eKERNEL, prior to release 2.9.10 or release 2.9.10 and subsequent releases, the eKERNEL interprets the results from the location request. In release 2.9.10 and newer version, the last use timestamp indication is used to determine the location.

For these steps the eLOCATION instances must be configured, as shown in the following figure. The configuration of eLOCATION involves a record in eLOCATION for each DAP Controller. This DAP Controller, 192.168.32.10, is handled by eLOCATION site 1 area 2 as shown in the following figure.

Figure 171
Configuration of eLOCATION



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For each DAP Controller and each eLOCATION instance, a number of associated definitions are required in the tables eLOCATION_BOARD, eLOCATION_RPN, and eLOCATION INBOUND_RESULT.

The eLOCATION_BOARD defines the SIP DECT extensions that are registered in the DCC board. See the configuration of the PBX to determine the DECT extensions that are associated with a DAP Controller.

The devices are entered in the system as shown in the following two figures.

Figure 172
Module eLOCATION board definition

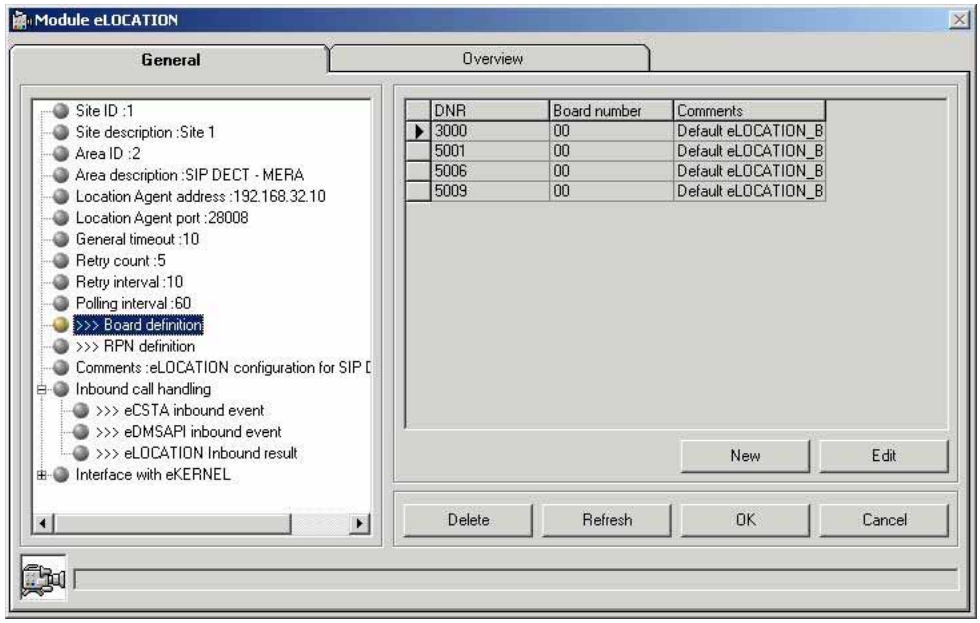

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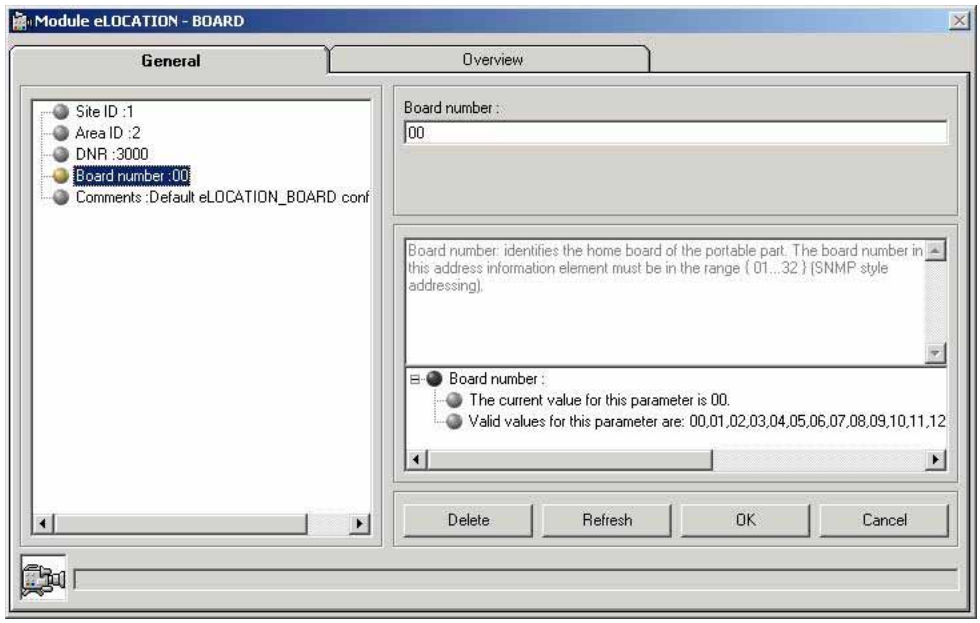
Figure 173
Module eLOCATION board 00 definition


Module eLOCATION - BOARD
General
Overview
Site ID :1
Area ID :2
DNR :3000
Board number :00
Comments :Default eLOCATION_BOARD conf
Board number :
00
Board number: identifies the home board of the portable part. The board number in this address information element must be in the range { 01...32 } (SNMP style addressing).
Board number :
The current value for this parameter is 00.
Valid values for this parameter are: 00,01,02,03,04,05,06,07,08,09,10,11,12
Delete
Refresh
OK
Cancel

- Next the eLOCATION_RPN table must be populated with records for every RPN known in the DAP Controller configuration. In the following figure, RPN "11" up to RPN "13" is defined. A generic catchall definition is indicated with a "?". For each RPN, we define a description in words that tell the end-user the physical location of the RPN.

  In the sample illustrated in the following figure, the texts are "nearby RPN 011", "nearby RPN 012", but in a real environment the text appears in words rather than technical code, for example Emergency room, Elevator 1, Psychiatric department, and so on.

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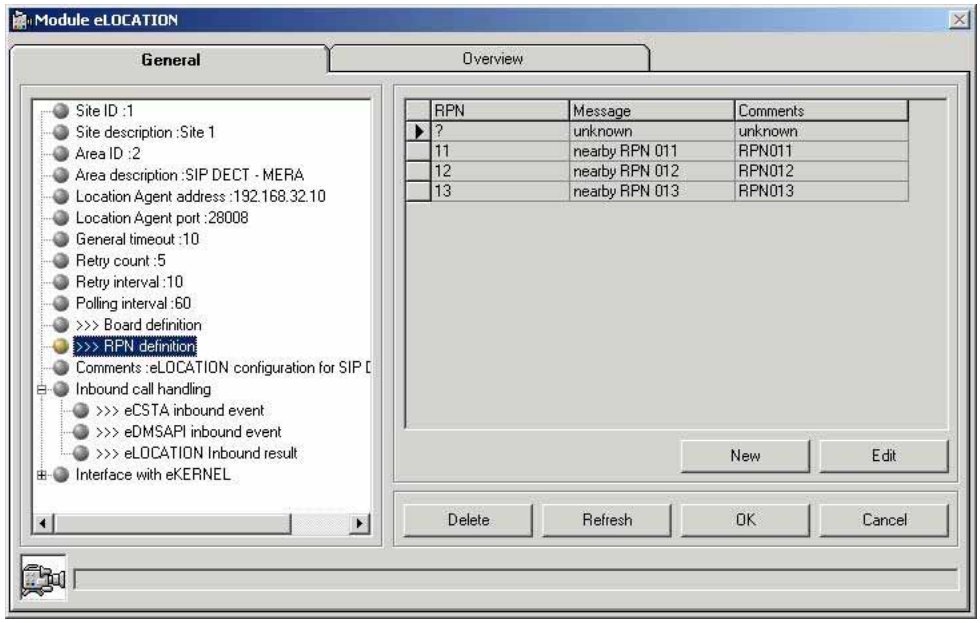
Figure 174
eLOCATION_RPN table



At this stage, you already know the calling number, the called number, and the physical location. With this knowledge, eKERNEL can resume processing. A group of users is alerted with an alarm message in words, not technical code, that contains enough information to let the group of users know the geographical location of the alerting DECT user.

This is done using the eLOCATION_INBOUND_EVENT table, as illustrated in the following figure.

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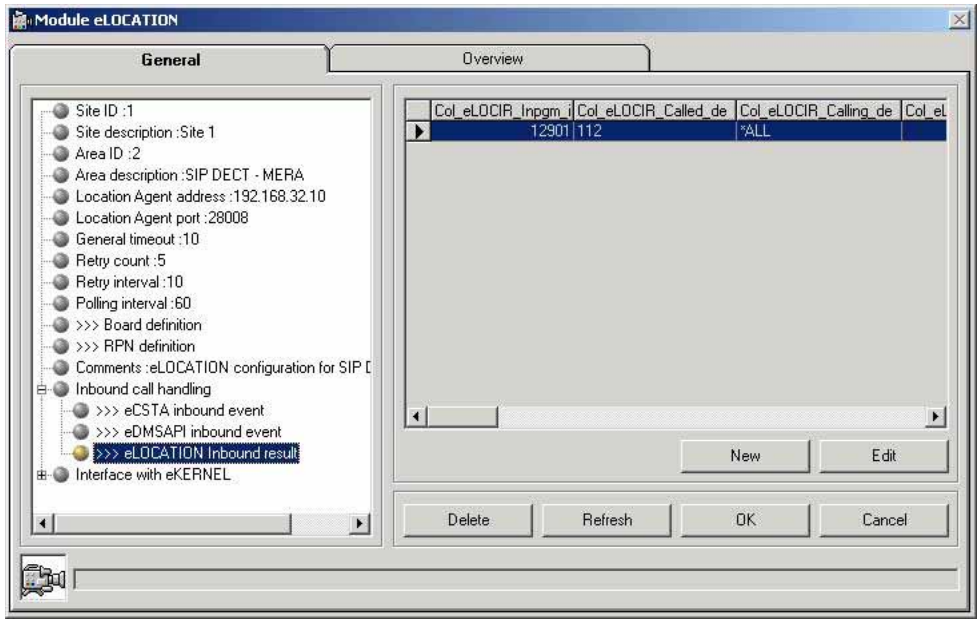
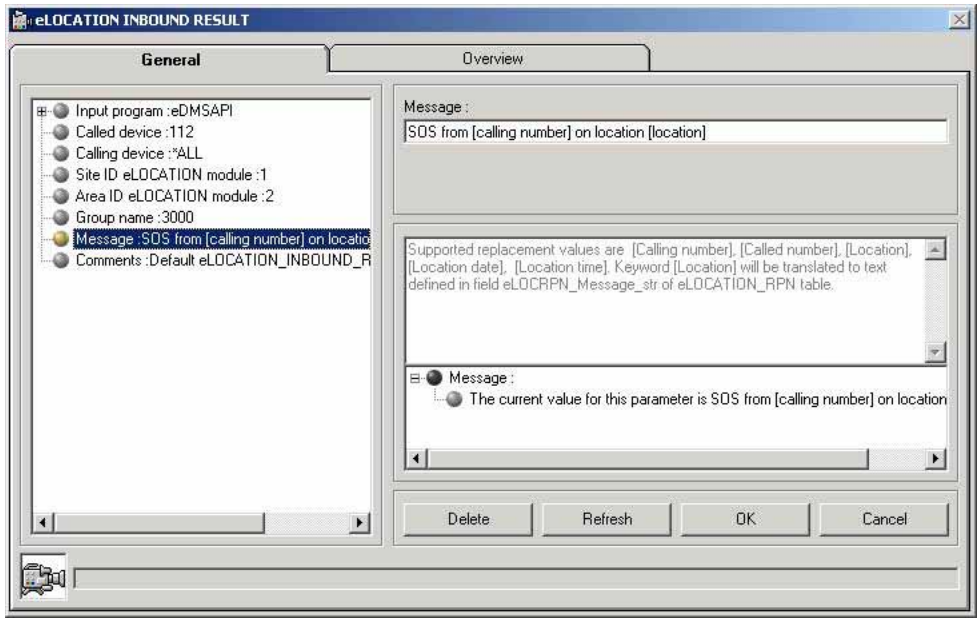
Figure 175
eLOCATION_INBOUND_EVENT table



In the sample in the following figure, alarms from the eDMSAPI input program 12901, site 1, area 2 and all calling devices, that called special extension 112, result in an alarm sent to group 3000.

Figure 176
eLOCATION inbound result SOS message from eDMSAPI


eLOCATION INBOUND RESULT
General
Overview
Input program :eDMSAPI
Called device :112
Calling device :*ALL
Site ID eLOCATION module :1
Area ID eLOCATION module :2
Group name :3000
Message :SOS from [calling number] on locatio
Comments :Default eLOCATION_INBOUND_R
Message :
SOS from [calling number] on location [location]
Supported replacement values are [Calling number], [Called number], [Location], [Location date], [Location time]. Keyword [Location] will be translated to text defined in field eLOCRPN_Message_str of eLOCATION_RPN table.
Message :
The current value for this parameter is SOS from [calling number] on location
Delete
Refresh
OK
Cancel

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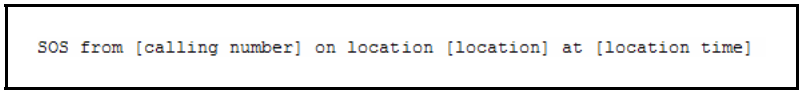
The following figure shows an example of a message sent to the group as defined in the Message parameter.

Figure 177
SOS message sent to group



The eKERNEL parses the data stream and performs the appropriate replacements of the replacement values [calling number], [location] and [location time].

> ***Note:*** The "Site ID eLOCATION module" equals 1 and the "Area ID eLOCATION module" equals 1 in the example shown in the previous figure. The example indicates that the location request is resolved by the eLOCATION module site 1 and area 1.

In DECT Messenger prior to release 2.9.10, the request is only forwarded to eLOCATION with matching site and area (same for eDMSAPI and eLOCATION). This means when eDMSAPI resides on site 1 area 1, only the configuration records in eLOCATION_INBOUND_RESULT with reference to site 1 and area 1 are used.

In DECT Messenger release 2.9.10 and in subsequent releases, these requests are published to all available eLOCATION modules residing on the same site, and the most recent location is used. In this environment, the matching definitions for the available areas must also be defined.

The possibility of using a "visual DNR" to a device in Messenger (new field DEV_Visual_dnr_str in table eKERNEL_DEVICE for the replacement value [calling number] is introduced in release 3.0. In release 3.0 and subsequent releases, when the system configuration configures a device with a visual DNR, this DNR is used to format a message when it contains [Calling number]. The end-used is confronted with the visual DNR instead of the device id.

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Module - eSMS

ATTENTION
Due to the ongoing development of the DECT Messenger product suite, some modules that provide additional functionality may become available after the initial release of DECT Messenger 4.0.

The following modules are described in this NTP but are not available at initial General Availability.

- eFR
- eLICENSE
- eLOCATION
- eSMS
- eSNMP
- eVBVOICE

The eFR module is an add-on module and is licensed separately through the eLICENSE module. Some of the modules listed in this attention box are available only on a site-specific basis.

Architecture

The eSMS module works with the SMS_service module. Together, these modules provide the ability to send outbound SMS messages from DECT Messenger to mobile GSM phones. Incoming SMS messages that originate from mobile GSM phones can also be processed to confirm alarms.

Siemens TC35i module

The SMS_service module currently only supports the Siemens TC35i module. Verification of compatibility of other SMS boxes can be handled on a project-by-project basis.

Some other modules are compatible and other modules show intermediate problems of incompatibility issues.

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In addition a Siemens TC35i module, you need the following items.

- a serial cable to connect the TC35i with the PC, included in TC35i
- a power unit and cable for the TC35i, included in TC35i
- an antenna for the TC35i, included in TC35i
- a SIM card of mobile provider of choice with a PIN and a PUK code

Follow the steps in the next procedure to install the Siemens TC35i module.

Procedure 76
Installing the Siemens TC35i module

Step	Action
1	Install the **SIM card** in a regular mobile phone.
2	Power on the mobile phone.
3	Refer to the SIM card information and obtain the valid PIN and PUK codes. You usually need the pincode at startup.
4	Use the menu options of your regular mobile phone to disable the PIN code check at power-up. To verify that this step is complete, switch the regular mobile phone off and on. The mobile phone no longer asks for a PIN code and immediately becomes operational. **ATTENTION** Do not continue unless this step completed.
5	Ensure the location where you plan to install the Siemens TC35i has sufficient coverage of your mobile provider. The building environment can prevent good reception of a mobile operator signal. When the reception is not optimal, consider moving the antenna and box to a location with better reception. Another solution to less than optimal reception on your mobile phone is moving DECT Messenger to another place. You can also consider a distributed setup running the eSMS and SMS_service on a different PC.
6	Send and receive an SMS message manually to ensure operator connectivity for SMS messaging runs properly.
7	Remove the SIM from your regular mobile phone, and insert it in the Siemens TC35i module.

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Refer to the documentation that comes with the Siemens TC35i module for installation details.

--End--

SMS service

When you install eSMS, the eSMS module, the SMS_service module, SMS_service.ini, and SMS_service.exe are installed in the directory: C:\SOPHO Messenger@Net\Exe.

The SMS_service module is a separate process and communicates with the GSM box.

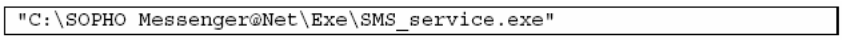
SMS_service.exe and SMS_service.ini are two resources related to SMS_service functionality.

Configure SMS_service through the .INI file. The default values suit most environments. You can change the parameter COM Port if COM1 is not available. Change the value according to your environment, for example specify 3 if COM3 is available.

In the sample file illustrated in Figure 178 "Default configuration section" (page 443), there is a single INI file. There can be more than one instance of SMS_service with multiple Siemens TC35i boxes. In most cases, only one Siemens TC35i is used and only a single instance of eSMS and SMS_service is used.

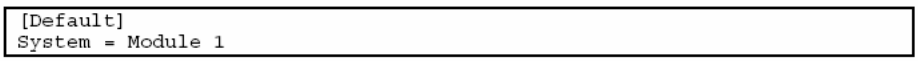
When the service is started with the following shortcut, the default configuration section is used.

Figure 178
Default configuration section



The default configuration is configured in INI file with the statements shown in the next figure.

Figure 179
INI file



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The statement in Figure 179 "INI file" (page 443) indicates that in absence of a /System:xxxx in the shortcut, the default system is used. In the sample configuration in the following figure, the configuration Module 1 is set as a default system. This means only Module 1 is used.

Figure 180
Sample configuration

```
[Module 1]
Manufacturer            = SIEMENS
Model                   = TC35i
COM port                = 1
COM settings            = 9600,n,8,1
Mode                    = Text
Log days                = 7
Queue depth             = 10
Local                   = +32473897171
Remote                  = +32473897171
Outbound HTTP port      = 29082
Outbound HTTP sockets   = 10
Outbound XML port       = 29081
Outbound XML sockets    = 10
Inbound interval        = 10
Inbound XML address     = 127.0.0.1
Inbound XML port        = 29080
Inbound signatures      = M, Msg, Messenger, Msg@Net, Messenger@Net
```

Special circumstances exist where two instances of eSMS and SMS_service and TC35i can be requested.

For example, if you have a need for high-level redundancy, you can use SIM cards from two different mobile providers. If one box of SIM card fails, you can use the other box. You setup a configuration to first send to devices on eSMS area 1, mobile provider 1, and if NACK occurs, you use alternative devices defined on eSMS area 2, mobile provider 2. You alter the shortcuts referring to the desired configuration section shown in the following figure.

Figure 181
Altered shortcuts

```
"C:\SOPHO Messenger@Net\Exe\SMS_service.exe" /System=Module 1
```

```
"C:\SOPHO Messenger@Net\Exe\SMS_service.exe" /System=Module 1
```

The following figure shows the default configuration.

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Figure 182
Default configuration

SMS_service.ini - Notepad
File Edit Format View Help
' The SMS_service.exe can be started with or without command line parameter
'
' Without command line parameter : "SMS_service.exe"
' The [Default] section is read, and keywords "System" is used to identify section
' For instance if "Module 1" is specified, parameters are retrieved from [Module 1]
'
' With command line parameter : "SMS_service.exe /System:Module 1" or "SMS_service.exe /System:Module 2"
' The command line parameters is used to determine the configuration section
' If "System:Module 1" is specified, parameters are retrieved from [Module 1]
' If "System:Module 2" is specified, parameters are retrieved from [Module 2]
'
' Please note that COM port and HTTP ports and XML ports should be unique
' Do not specify twice the same COM port or HTTP port or XML port
'
'
' Supported values for manufacturer and model are shown below
'
' Manufacturer = SIEMENS
' Model = TC35i
'
' Manufacturer = NOKIA
' Model = 30
'
[Default]
System = Module 1
[Module 1]
Manufacturer = SIEMENS
Model = TC35i
COM port = 1
COM settings = 9600,n,8,1
Mode = Text
Log days = 7
Queue Depth = 10
Local = +32473897171
Remote = +32473897171
Outbound HTTP port = 29082
Outbound HTTP sockets = 10
Outbound XML port = 29081
Outbound XML sockets = 10
Inbound Interval = 10
Inbound XML address = 127.0.0.1
Inbound XML port = 29080
Inbound signatures = M, Msg, Messenger, Msg@Net, Messenger@Net
[Module 2]
Manufacturer = SIEMENS
Model = TC35i
COM port = 2
COM settings = 9600,n,8,1
Mode = Text
Log days = 7
Queue Depth = 10
Local = +32473897171
Remote = +32473897171
Outbound HTTP port = 39082
Outbound HTTP sockets = 10
Outbound XML port = 39081
Outbound XML sockets = 10
Inbound Interval = 10
Inbound XML address = 127.0.0.1
Inbound XML port = 39080
Inbound signatures = M, Msg, Messenger, Msg@Net, Messenger@Net

At startup, initialization takes place. The SMS_service contacts the Siemens TC35i module and initializes the system. A message window appears that states "Initialization completed normally". The SMS_service is then operational for sending outbound messages received from eSMS.

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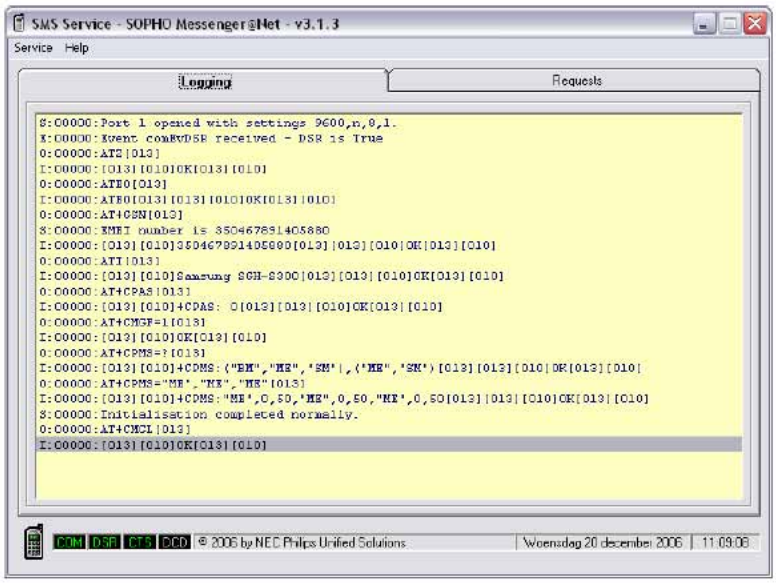
Figure 183
SMS_service operational



The module polls the box to find out if inbound messages are received from external mobile phones through the mobile network.

The logging file can feature the AT+CMGL loop condition during the idle time.

eSMS module

The support for SMS messaging is implemented with different processes.

The eKERNEL process integrates with eSMS process, and eSMS process integrates with SMS_service process.

This design is similar to other modules, such as eKERNEL – eDMSAPI – CSTA_service or eKERNEL – eCSTA – CSTA_service.

At startup, eSMS contacts the eKERNEL to request its configuration. You configure the IP address and port in the shortcut. When parameters are absent, you are prompted for startup values.

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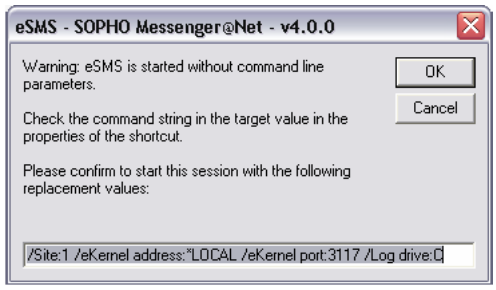
Figure 184
Startup values prompt


eSMS - SOPHO Messenger@Net - v4.0.0
Warning: eSMS is started without command line parameters.
Check the command string in the target value in the properties of the shortcut.
Please confirm to start this session with the following replacement values:
OK
Cancel
/Site:1 /eKernel address:*LOCAL /eKernel port:3117 /Log drive:C

The command line parameters are shown in the following figure.

Figure 185
Command line parameters

```
/Site:1 /eKernel address:*LOCAL /eKernel port:3107 /Log drive:C
```

The module eKERNEL responds to the <cfgrqs> with <cfgrpy>. This configuration is retrieved from the Messenger_CFG database table.

In native mode, the configuration is retrieved from the eSMS table. This table contains, for example the IP address and the port number used to connect to the SMS_service process. This SMS_service is a separate program that communicates with the SMS box, and can run on a local or distributed PC. The trace of the configuration exchange is shown in the following figure.

Figure 186
Configuration exchange

```
S:INF:Application eSMS - SOPHO Messenger@Net - v4.0.0 started with
parameters /Site:1 /eKernel address:*LOCAL /eKernel port:3117 /Log
drive:C

S:INF:TCP local port 01158 connected with remote port 03117 (eKERNEL)

O:TCP:<xml><cfgrqs><appl>eSMS</appl><site>1</site></cfgrqs></xml>

I:TCP:<xml><cfgrpy><sms_address>127.0.0.1</sms_address><sms_outbound_por
t>29081</sms_outbound_port><sms_inbound_port>29080</sms_inbound_port><ve
rsion>2.9.10</version><log_path>C:\SOPHO
Messenger@net</log_path><log_days>14</log_days></cfgrpy></xml>
```

At startup, the main screen appears, shown in the following figure.

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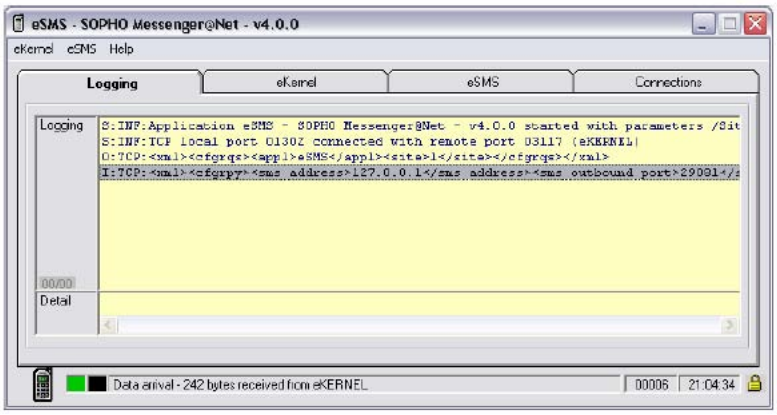
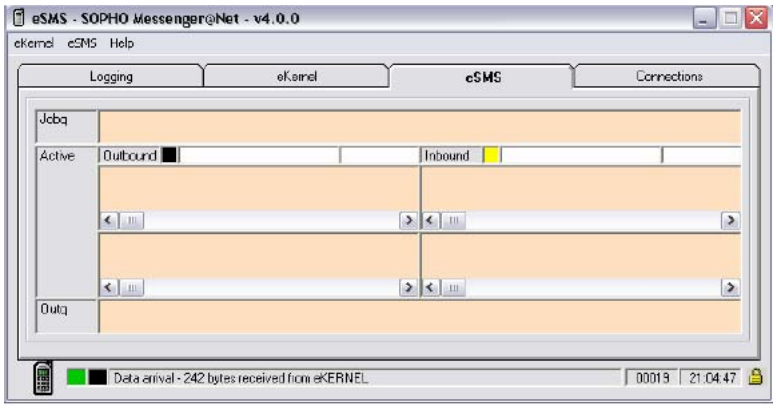
Figure 187
eSMS Main screen



The section on the left features outbound messaging and the section on the right features inbound messaging.

Figure 188
Inbound and outbound messaging



The tab connections shows the details of the configuration received from the eKERNEL.

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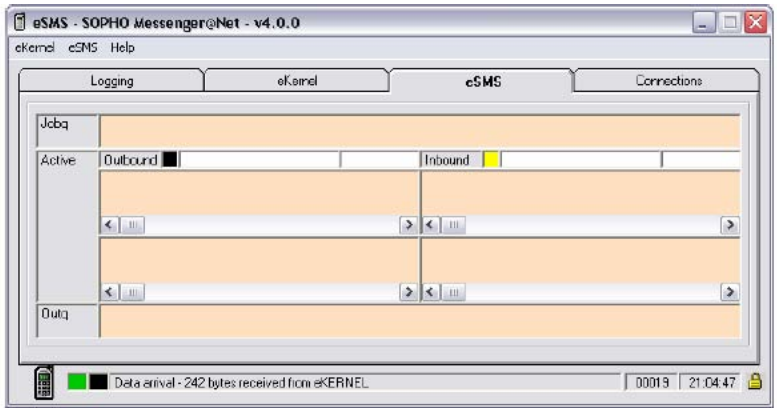
Figure 189
Configuration details in tab connections



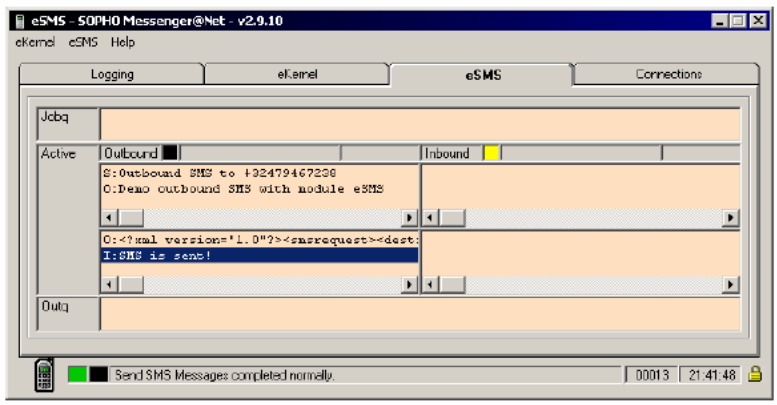
Outbound messaging

The eSMS module can send outbound SMS messages to mobile phones. It connects to the mobile world through an SMS box, controlled by the SMS_service process.

The eSMS module contacts the SMS_service process during the messaging delivery process. The message delivery process bidirectional. The eSMS sends a request to the SMS_service and the SMS_service sends a reply to the eSMS module.

The following figure shows a sample message is sent to a mobile phone.

Figure 190
Example of an outbound message to a mobile phone



More details on this dialogue are listed under the Logging tab.

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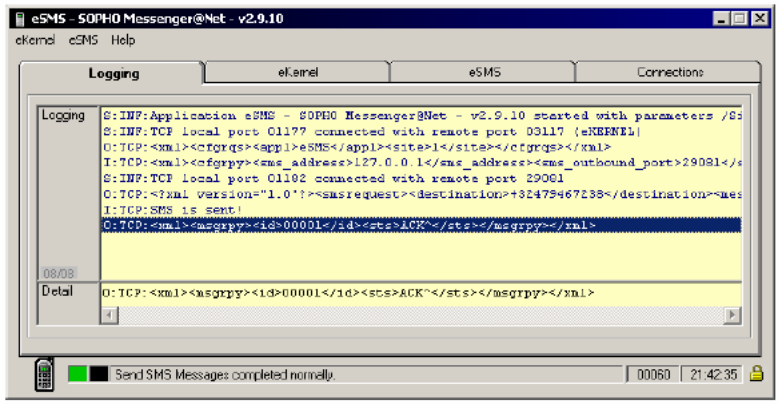
Figure 191
Details under logging tab



The logging files provide more details on the data exchange.

Figure 192
Logging files

```
S:INP:TCP local port 01182 connected with remote port 29081
O:TCP:<?xml version="1.0"?><smsrequest><destination>+32479467238
</destination><message>Demo outbound SMS with module eSMS
</message></smsrequest>

I:TCP:SMS is sent!

O:TCP:<xml><msgrpy><id>00001</id><sts>ACK^</sts></msgrpy></xml>
```

When message delivery is successful, positive feedback is returned to eKERNEL. This XML datastream contains the <ACK> characters.

When message delivery fails, a negative response is sent to eKERNEL, as shown in the following figure. The window in the following figure shows that the eSMS cannot connect to the SMS_service due to a network error.

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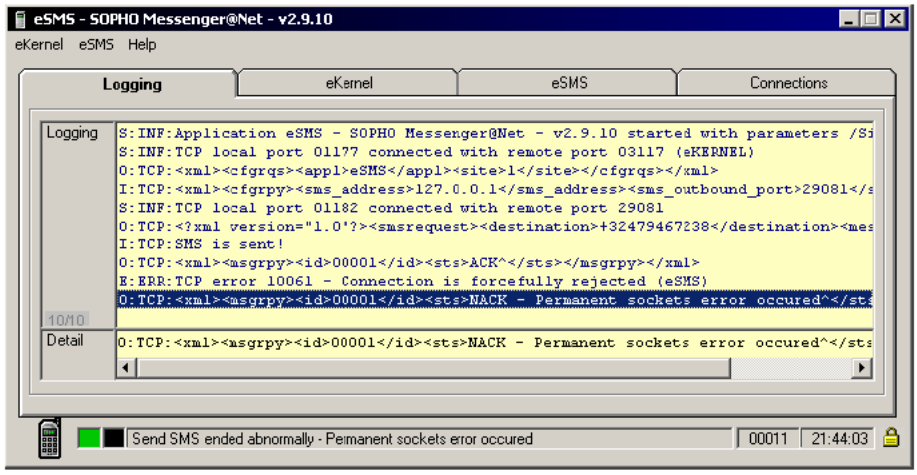
Figure 193
Example of message delivery failure



Inbound messaging

The eSMS module also handles inbound SMS messages. These messages are received on the GSM box, and transferred to the eSMS module to be processed in DECT Messenger by eKERNEL.

For this purpose, additional tables eSMS_INBOUND and eSMS_INBOUN D result are added to the Messenger_CFG database.

The eSMS module communicates with the SMS_service through a separate TCP connection. The eSMS module acts as the TCP Server and the SMS_service module acts as the TCP Client. The eSMS is listening to a port, for example 29080, for inbound messages requests from mobile phones.

In the current release of eSMS, the inbound functionality can confirm alarms, either based upon the calling line identifier, or mobile phone extension number, or based upon a pincode, provided in the SMS message.

The following figure illustrates the reception of an inbound SMS message. The message confirms all alarms for the devices that have pincode 238.

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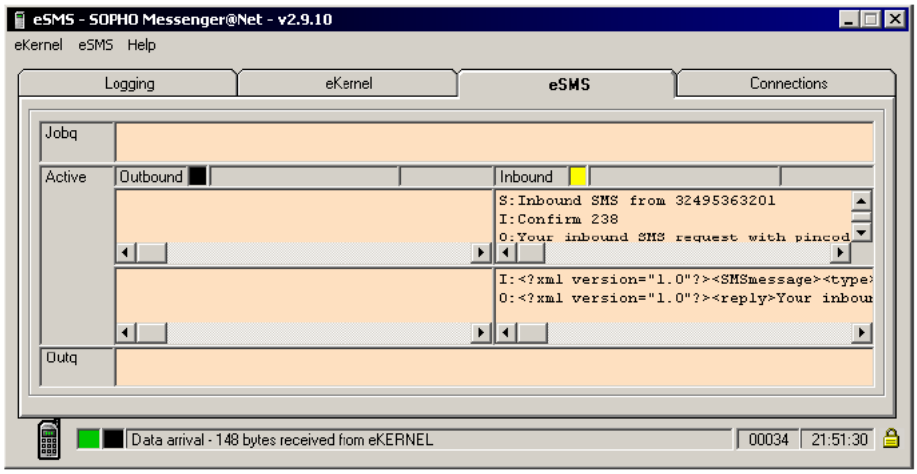
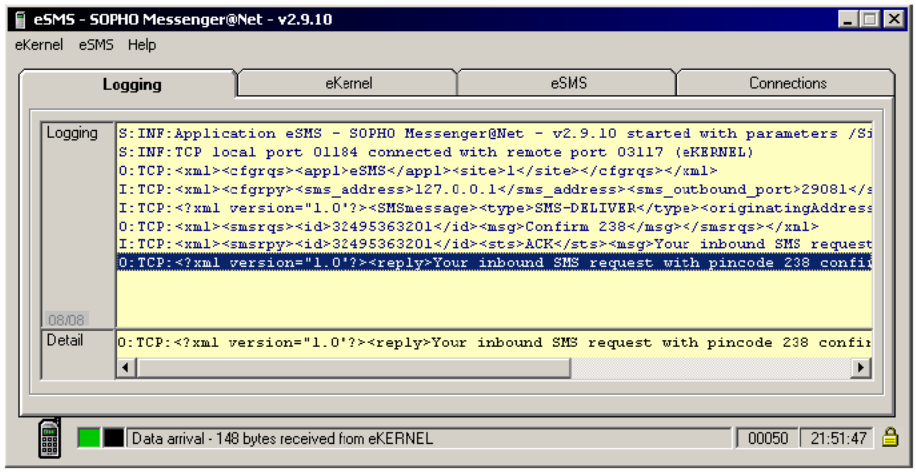
Figure 194
Reception of an inbound SMS message



More details on this data exchange are given under the logging tab, as shown in the following figure.

Figure 195
Logging tab



The logging files provide more details on the data exchange, as shown in the following figure.

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Figure 196
Logging files

```
I:TCP:<?xml version="1.0"?><SMSmessage><type>SMS-
DELIVER</type><originatingAddress>32495363201</originatingAddress><userD
ataLength>11</userDataLength><userData>Confirm
238</userData></SMSmessage>

O:TCP:<xml><smsrqs><id>32495363201</id><msg>Confirm
238</msg></smsrqs></xml>

I:TCP:<xml><smsrpy><id>32495363201</id><sts>ACK</sts><msg>Your inbound
SMS request with pincode 238 confirmed 0 alarms on 5
devices</msg></smsrpy></xml>

O:TCP:<?xml version="1.0"?><reply>Your inbound SMS request with pincode
238 confirmed 0 alarms on 5 devices</reply><result>OK</result>
```

Configuration

The eSMS module is configured through the eCONFIG module. The eSMS module requires eCONFIG 2.9.10 or above.

The following eight figures illustrate the configuration process for both outbound and inbound messages.

Figure 197
eCONFIG configurator

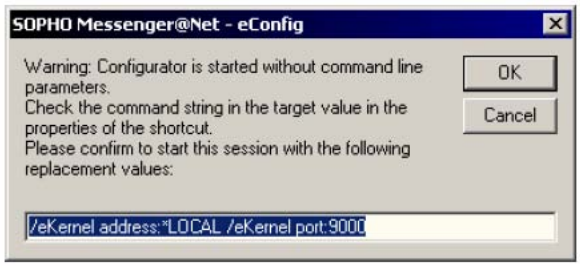
SOPHO Messenger@Net - eConfig
Warning: Configurator is started without command line parameters.
Check the command string in the target value in the properties of the shortcut.
Please confirm to start this session with the following replacement values:
OK
Cancel
/eKernel address:*LOCAL /eKernel port:9000

Figure 198
Sign on to DECT Messenger configurator

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Figure 199
eSMS area IBS 1

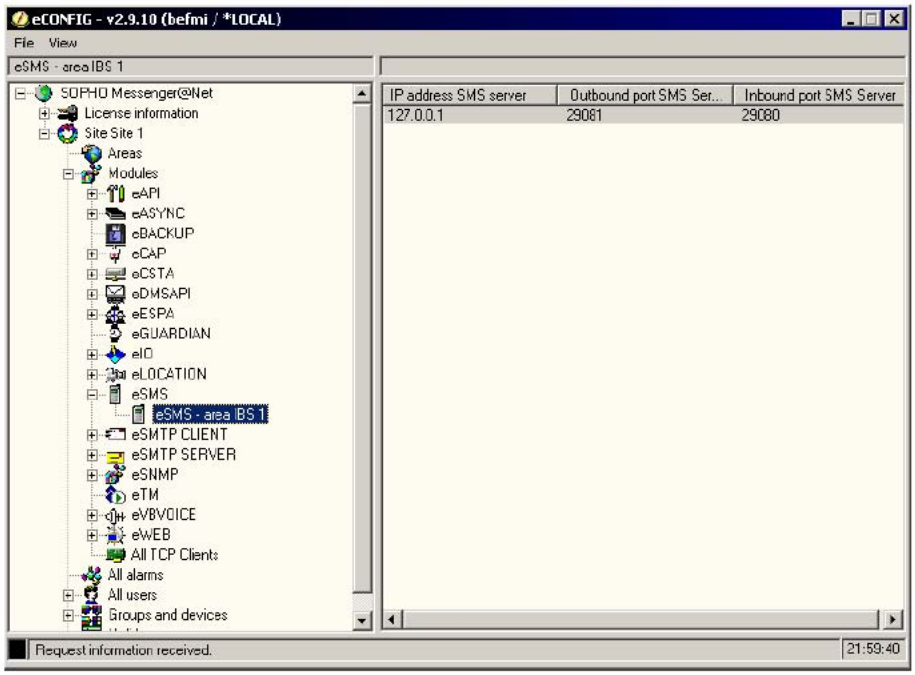

Figure 200
Module eSMS inbound definitions

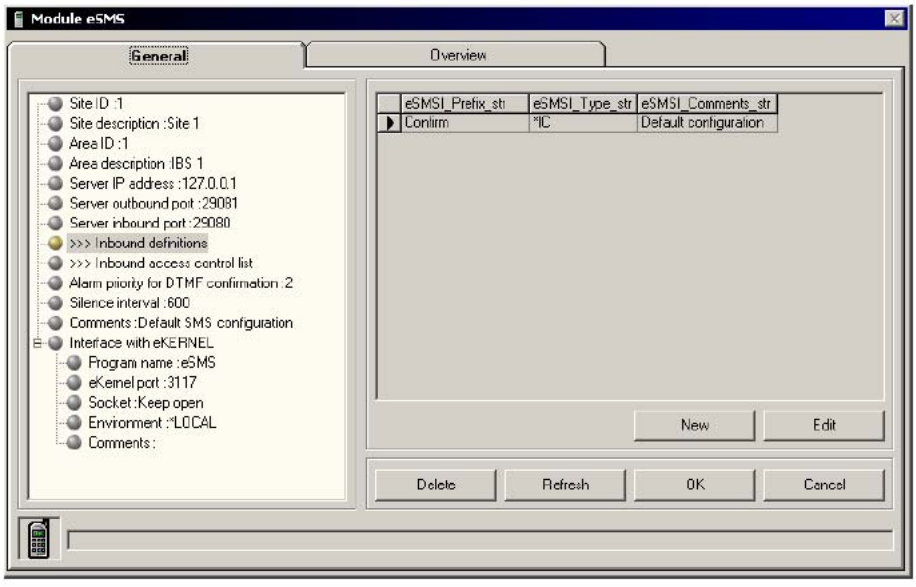

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Figure 201
Module eSMS - Inbound

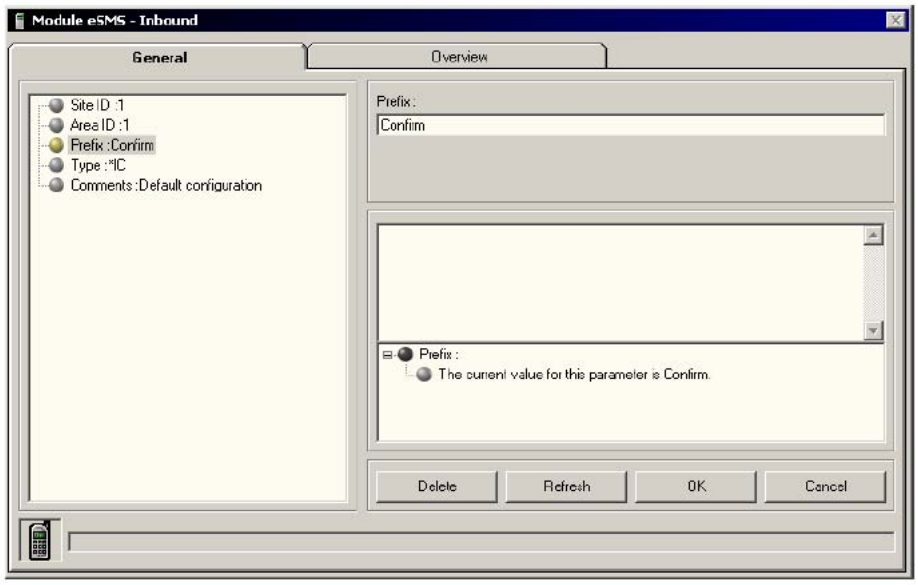

Figure 202
Module eSMS - Inbound ACL

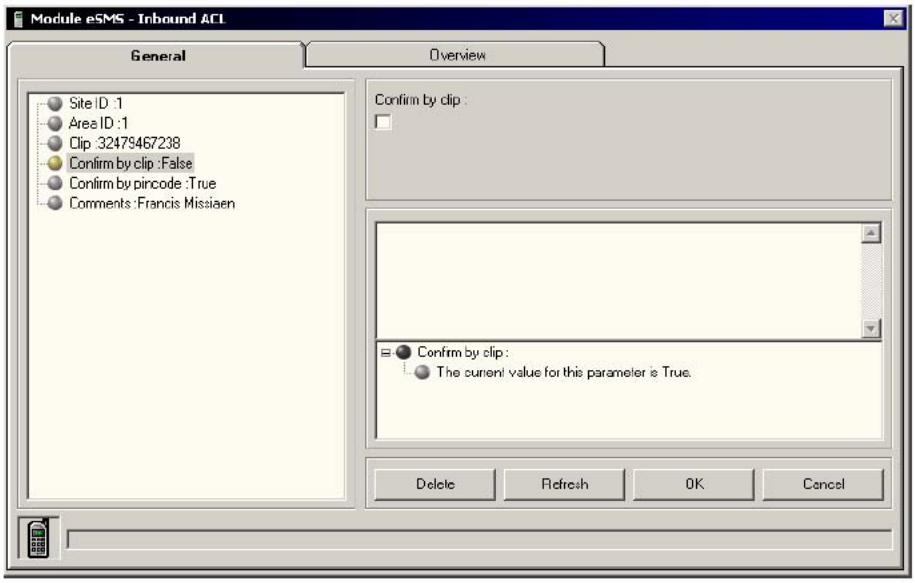

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Figure 203
Module eSMS eKERNEL_DEVICE_FORMAT

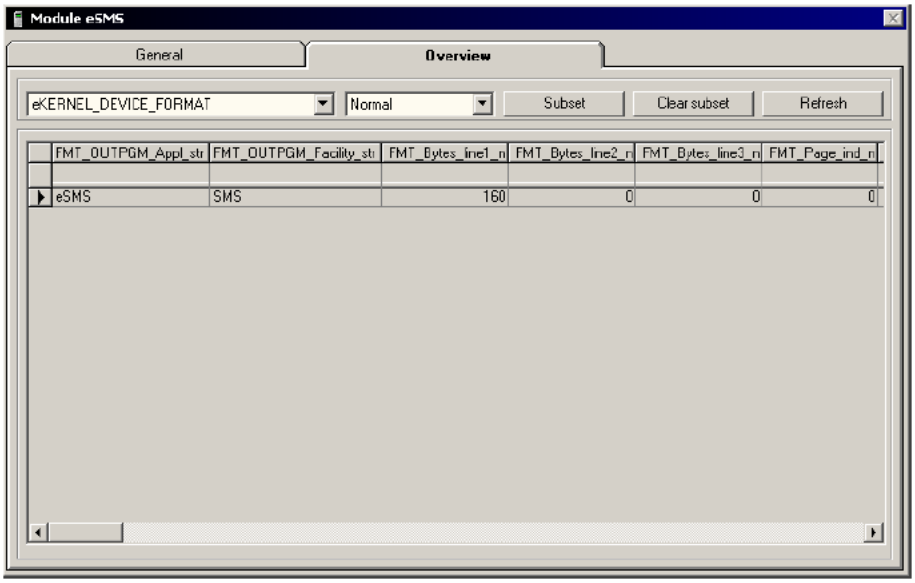
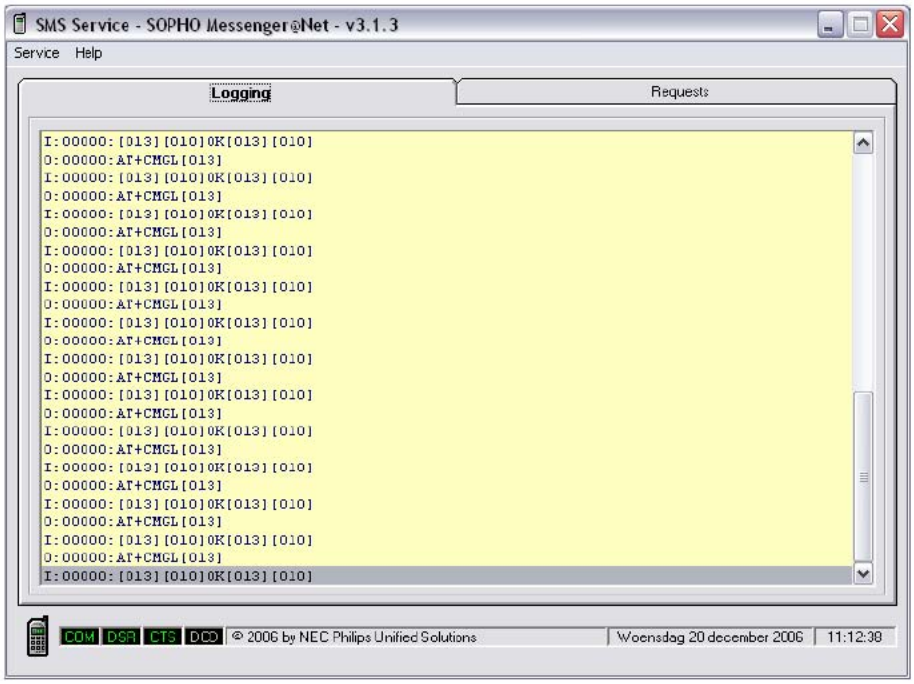


Figure 204
SMS Service logging tab



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Web interface

When eSMS is configured, the new Web Administrator interface features a window where you can send an SMS message from the web interface. This window retrieves all defined devices from the eKERNEL_DEVICE table configured for the eSMS output program.

Figure 205
Select destination

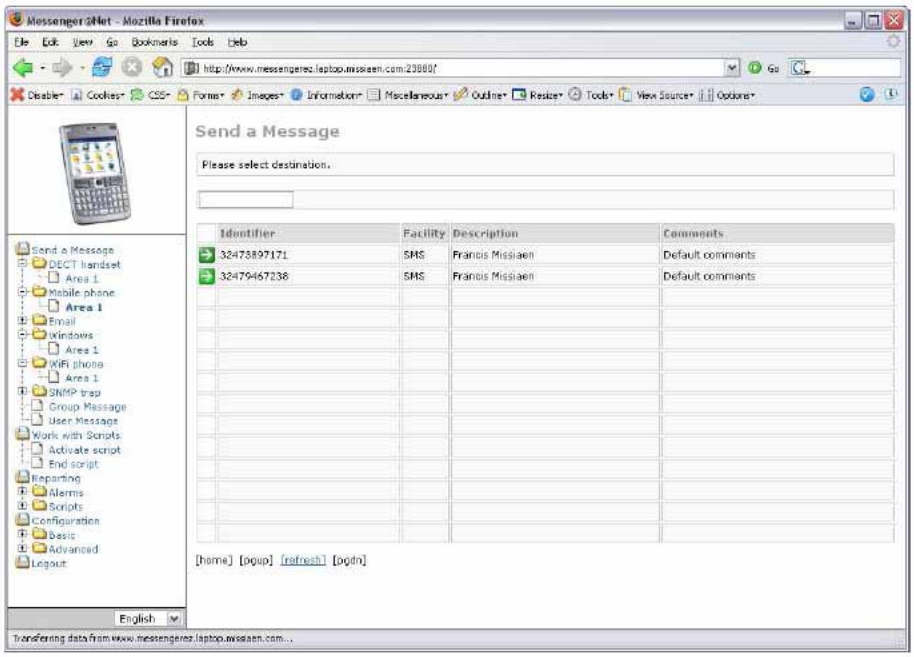

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Figure 206
Enter message information

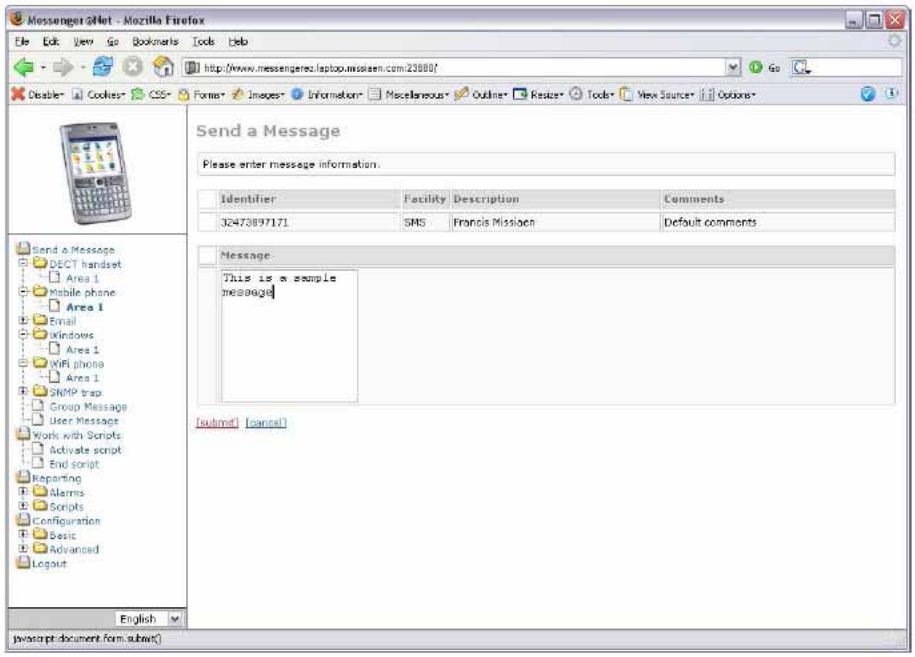

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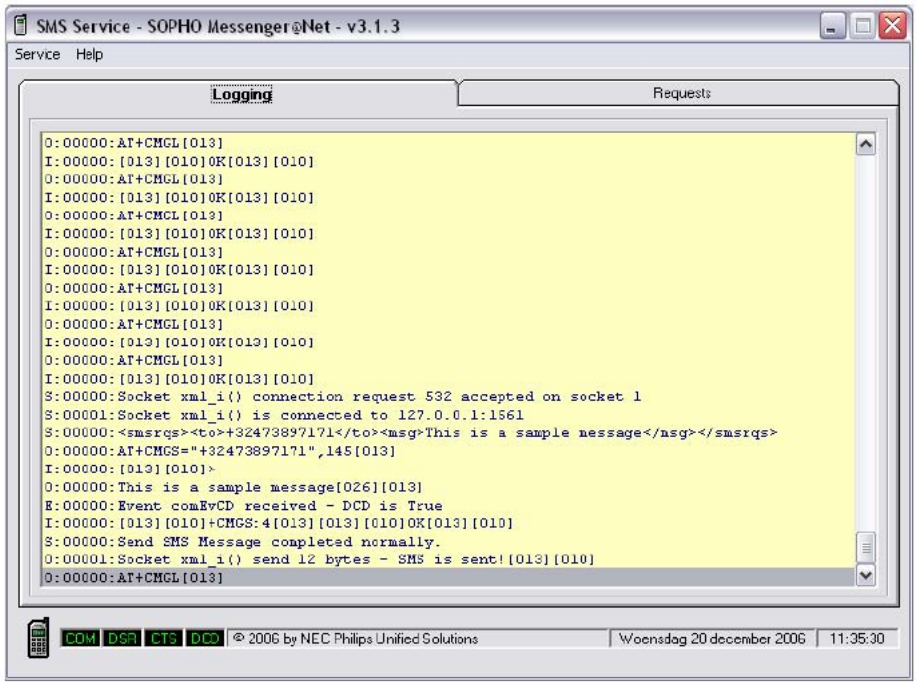
Figure 207
Logging tab



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Nortel Communication Server 1000

DECT Messenger Installation and Commissioning — Book 1

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